

Sauget Area 2 Sites Group

July 20, 2009

Ms. Leah Evison
Remedial Project Manager
U. S. Environmental Protection Agency, Region 5
77 W. Jackson Blvd. (SR-6J)
Chicago, IL 60604-3590

Re: Principal Threat Wastes Technical Memorandum
Sauget Area 2
Sauget, Illinois

Dear Leah:

Attached, please find the approved Principal Threat Wastes Technical Memorandum.

This document was approved on April 1st, 2009 with specific modifications. The attached includes those required modifications.

Please call us with any comments or questions on this report.

Sincerely,



Steve Smith
Co-Project Coordinator

cc: Sandra Bron – Illinois EPA, 2 copies
Lisa Cundiff – CH2M Hill, 1 copy

Date: July 21, 2009

To: Steve Smith, Gary Uphoff – SA2SG Co-Project Managers

From: Bob Veenstra, URS

Subject: **Principal Threat Wastes Technical Memorandum-Revised**

1.0 SUMMARY

This technical memorandum summarizes existing data regarding the presence of non-aqueous phase liquid (NAPL) and buried drums at Sauget Area 2 (SA2) and provides an evaluation of whether the NAPL or buried drums containing liquid waste materials would constitute principal threat wastes.

USEPA requested that results of the Remedial Investigation submitted in 2004 (2004 RI), and the Supplemental Investigation (SI) conducted in 2005 and 2006 be integrated to facilitate an updated evaluation of principal threat wastes at SA2 Sites O, P, Q, R, and S (Sites).

Based on the information presented in this technical memorandum (Tech Memo), there is no evidence of large caches of drums containing liquid wastes or highly mobile source material at the SA2 Sites.

This evaluation is pertinent only to liquids and NAPL principal threat wastes. A separate technical memorandum will be prepared evaluating whether waste materials are present which may be considered a principal threat based on toxicity (the Remedial Investigation Report and the Disposal Area Waste Toxicity Technical Memorandum).

Minor quantities of principal threat wastes were observed in the following locations:

- AT-Q-35 in Site Q South: Two intact drums were found where potential NAPL leaked into the trench from one of the drums. Since the two drums were found in close proximity to each other, to be conservative, both were considered to contain liquid and be principal threat waste.
- The NAPL observed in Anomaly Trench AT-P-4 and LEACH-P-1.
- NAPL was observed at 8 locations in Site R and is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled within the GMCS barrier wall (Operable Unit # 2).
- The NAPL observed within Site Q North at Sonic-5 and LEACH-Q-1 is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2).

2.0 SCOPE OF TECHNICAL MEMO

Principal Threat Wastes

USEPA has requested that results of the 2004 RI, and the SI conducted in 2005 and 2006 be integrated to facilitate an updated evaluation of principal threat wastes at Sites O, P, Q, R, and S (Sites). Principal threat wastes are defined in a 1991 USEPA fact sheet as follows:

Principal threat wastes are those source materials that are considered to be highly toxic or highly mobile that cannot be reliably contained or would present a significant threat to human health or the environment should exposure occur. They include liquids and other highly mobile materials (e.g., solvents) or materials having high concentrations of toxic compounds. No threshold level of toxicity/risk has been established to equate to principal threat. However, where toxicity and mobility of source material combined to pose a potential risk of 10^{-3} or greater, generally treatment alternatives should be evaluated.

The USEPA fact sheet presented several examples of principal threat wastes.

Wastes that generally will be considered to constitute principal threats include, but are not limited to:

- *Liquids – waste contained in drums, lagoons or tanks, free product (NAPLs) floating on or under groundwater (generally excluding groundwater) containing contaminants of concern.*
- *Mobile source material – surface soil or subsurface soil containing high concentrations of contaminants of concern that are (or potentially are) mobile due to wind entrainment, volatilization (e.g., VOCs), surface runoff, or subsurface transport.*
- *Highly toxic source material – buried drummed non-liquid wastes, buried tanks containing non-liquid wastes, or soils containing significant concentrations of highly toxic materials.*

As requested by the SA2 Sites Group, URS has prepared this Tech Memo to summarize existing data regarding the presence of NAPL and buried drums at the SA2 Sites and provide an evaluation of whether or not NAPL, or the buried drums that were found to contain liquid wastes, constitute principal threat wastes. This evaluation is pertinent only to liquids and NAPL principal threat wastes. A separate technical memorandum will be prepared evaluating whether waste materials are present which may be considered a principal threat based on toxicity (the Remedial Investigation Report and the Disposal Area Waste Toxicity Technical Memorandum).

This memorandum includes the following:

- Summary of soil gas and magnetometer surveys;
- Summary of test trenching rationale, design, and field procedures;
- Inventory of number and condition of intact, buried drums found at the fill areas;
- Summary of the Phase 3 SI NAPL Investigation; and
- Evaluation of whether the NAPL or drums, that were found to contain liquid wastes, constitute principal threat wastes.

3.0 INVESTIGATION SUMMARIES

Remedial Investigation (2004)

As a part of the 2004 RI, fill area investigations were conducted in 2002 at SA2 Sites O, P, Q, R and S (Sites). The investigations included the following tasks: i) review of aerial photos, topographic maps, and topographic survey data to obtain information regarding fill area boundaries; ii) excavation of boundary trenches to confirm the horizontal limits of the fill areas; iii) a soil gas survey at and near each fill area; iv) waste sampling to characterize the fill materials; iv) a magnetometer survey at each fill area to identify magnetic anomalies potentially indicative of buried tanks or drums; and v) excavation of anomaly trenches at an interior location in each fill area to look for buried tanks or drums. Buried drum remnants and fragments were found in trenches at Sites P, Q, R, and S. Trench locations are shown on the Figure 1. The following is a summary of the magnetometer and soil gas surveys conducted during the 2004 RI.

Magnetometer Survey

Magnetometer surveys were conducted at four of the five SA2 Sites (P, Q, R, and S) to identify magnetic anomalies in the subsurface potentially associated with buried drums. No magnetometer survey was conducted at Site O since site closure records indicated that there were no drums present at this site. Magnetometer measurements were collected at the center points of a 50 by 50-foot grid superimposed on each of the disposal areas. The established survey lines were marked in the field using a pre-marked survey line to maintain straight and precise station locations. Profiles were completed along a straight line with an unobstructed line of sight, and each measurement location was marked with a surveyor's flag.

The geophysical survey of each site's magnetic field was completed utilizing a Ferex gradeometer magnetometer. Field procedures and operation of the instruments were done in accordance with the recommended manufacturer's field procedure and application manual.

The field magnetometer measured the strength of each site's magnetic field regardless of the orientation of the magnetic lines of force. During the performance of the geophysical survey, data were collected that resulted in contour maps depicting the distribution of magnetic field strength over each site. These maps were compared with the observed field conditions (including the location of known interfering objects such as vehicles, overhead power lines, and surface debris). By comparison, those magnetic anomalies, which could not be explained by observed site conditions, were presumed to be a result of buried subsurface material (e.g., drums, tanks, metal debris, etc.). The results of the magnetometer survey are presented on Figures 2a through 2d.

Soil Gas Survey

A soil gas survey was performed at each of the five SA2 Sites to assist in verifying the boundaries of the disposal areas. Soil gas samples were collected at the center points of a 200 by 200-foot grid, superimposed on each disposal area.

Direct-push technology was used to advance a retractable point holder to 5.5 feet below existing grade. The rods were then pulled back 6 inches to approximately 5 feet below existing grade to disengage the retractable point, thereby exposing the sampling mechanism. Polyethylene tubing (0.125-inch diameter) was then lowered into the rods. The upper end of the polyethylene tubing was connected to a 4-inch section of silicone tubing, which was then attached to a section of polyethylene tubing coming from an active vacuum system and a vacuum was placed on the tubing. A 60cc sample of soil gas was withdrawn from the silicone tubing using a 60cc disposable syringe with a stainless steel needle. The sample was then directly injected into the on-site gas chromatograph (GC). The GC provided a report of the total VOC concentrations.

Following sample collection, sample tubing was removed from the probe and disposed. Probing rods and sampling equipment were removed from the boring and the boring was filled with bentonite to just below existing grade. The bentonite was then hydrated with potable water and the surface was restored to its original condition.

If detectable concentrations of total VOCs were found in the soil gas samples from borings located along a site boundary, then additional borings were advanced off-site along a transect perpendicular to that site boundary. Borings were advanced every 100 feet along the transect until VOC concentrations

fell below the on-site laboratory reporting limits. If no VOCs were detected along a site boundary, no additional borings were advanced.

A total of 339 of the 348 originally proposed soil gas borings were advanced at the five sites. In addition, soil gas samples were collected at 15 step-out locations. The elimination of nine of the originally proposed soil gas sample locations, which could not be collected due to utility hazards, high water table, or unattainable access, was approved in the field by the USEPA's oversight contractor and was recorded on a Field Clarification Log. The results of soil gas survey are presented in Figures 3a through 3e.

The magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI were used to focus the trenching investigation of the potential presence of buried drums or tanks.

Supplemental Investigation (2005)

Additional anomaly trenches were completed during the Phase 1 of the SI in 2005 to investigate the potential presence of buried drums or tanks based on the magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI. The trench locations are summarized as follows:

- Four trenches were installed in Site P.
- Three trenches were installed in Site Q North.
- Eleven trenches were installed in Site Q Central.
- Four trenches were installed in Site Q South.

Soil and waste samples were collected from these anomaly trenches. Buried drum remnants and fragments were found in some of the trenches at Sites P and Q. Two intact drums were found in Site Q South.

SI NAPL Investigation (2005, 2006)

A NAPL Investigation was conducted during Phase 3 of the SI in 2006 to identify the nature and extent of both residual NAPL, which remains in the interstitial spaces of the soil, and pooled NAPL, which sits on the groundwater surface (light non-aqueous phase liquids (LNAPL)) or on the bedrock surface (dense non-aqueous phase liquid (DNAPL)). The NAPL Investigation was focused on two areas based on previous investigation results:

- LEACH-P-1
- Sonic-5

These locations were based on the data collected during the regional survey of the presence or absence of NAPL during the 2005 Phase 1 SI regional groundwater gauging event and on observations made during the course of the 2004 RI and the SI. Observed NAPL or Potential NAPL locations are presented on Figure 3.

4.0 TEST TRENCH RATIONALE, DESIGN, AND FIELD PROCEDURES

4.1 Boundary Trenches (2002)

Boundary trenches (BT) were used to confirm the boundaries of the waste disposal areas identified through the aerial photo and soil gas analyses. One trench was installed on each side of a waste disposal area. Thus, there were a total of four trenches in each of Sites O, P, R, and S. Because of the larger total area and varying types of disposal activities in Site Q, ten boundary trenches were used to assess the site. The trenches were positioned to assess the features identified on the aerial photos, and each location was selected in the field with the concurrence of USEPA's oversight contractor.

Each trench began outside of an assumed disposal area boundary and moved in towards the boundary until waste materials were encountered. If waste materials were encountered initially, the trenching activities proceeded out and away from the boundary until native soils were encountered. The trenching extended vertically to a maximum depth of 40-feet bgs (below ground surface) or to groundwater, whichever was encountered first, and horizontally to a maximum length of 40 feet. Some trenches were terminated before reaching 40-feet bgs due to cave-in conditions in the trench. In order to minimize the generation of investigation-derived wastes (IDW), no accommodations were made to dewater test trenches or manage groundwater during excavation activities.

All excavated soil and fill materials were returned to the trenches. Backfilling was conducted in a manner which minimized ponding of water over the trench. If necessary, a silt fence was installed around the perimeter of the trench to minimize runoff of surface soils during rain events. A test trench at one location was backfilled prior to the initiation of a test trench at another location. After completion of site investigation activities, the SA2 Sites were allowed to vegetate naturally.

A summary of trenching observations is presented in Tables 1a, 1b, and 1c.

4.2 Anomaly Trenches (2002, 2005)

During the 2004 RI, a total of 10 anomaly trenches were completed to investigate the potential presence of buried drums or tanks as identified during the magnetometer survey. One anomaly trench was installed in each of the Sites P, R, and S and seven anomaly trenches were installed in Site Q. No anomaly trenches were performed at Site O since site closure records indicated that there were no drums present. In an effort to reduce the potential risks to the community, on-site workers and the environment, each magnetic anomaly was evaluated against four criteria:

- A soil gas concentration high
- Drum or tank disposal locations identified by historical air photo interpretation
- An area of high groundwater concentrations (greater than 10,000 ppb) as identified by the February 1998 Ecology and Environment Data Report, *Volume 2 Sauget Area 2 Data Tables/Maps*
- Major magnetic anomalies reported in the May 1988 Ecology and Environment Report, *Expanded Site Investigation, Dead Creek Project Sites at Cahokia/Sauget, Illinois*

A total of 22 additional anomaly trenches (AT) were completed as part of Phase 1 of the SI in 2005 to investigate the potential presence of buried drums or tanks based on the magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI.

- Four trenches were installed in Site P
- Three trenches were installed in Site Q North
- Eleven trenches were installed in Site Q Central
- Four trenches were installed in Site Q South

An anomaly trench was installed at the location of the most appropriate magnetic anomaly. Anomaly test trench locations were selected in the field with the concurrence of USEPA's oversight contractor.

Anomaly test trenches were advanced until evidence of buried drums or tanks was encountered or to a maximum length and depth of 40 feet. Infiltrating groundwater was not managed during excavation activities. If groundwater infiltration and/or poor soil stability resulted in the inability to complete a test trench to 40-feet below ground surface (bgs), the trenching was terminated at that location.

Step-Out Trenches

During trenching activities during Phase 1 of the SI in 2005, if drums or drum remnants were encountered during trenching, the length of the trench was extended beyond 40 feet in order to delineate the lateral extent of drums. If the trench extended at least 20 feet into a drum disposal and drums or drum remnants were still present, the lateral boundaries were delineated with boundary trenches at 50 foot increments transecting the perimeter of the disposal area on each side to avoid trenching directly through drums. It was assumed that the area between the step-out trenches and the original trenching area was continuously laden with buried drums. If drums or drum remnants were encountered during step-out trenching, one additional trench perpendicular to the original trench was installed to determine the lateral extent of the buried drums in that direction. The step-out trenches were test trenches excavated only to a length and depth necessary to confirm the presence of drums or similar density of drum remnants. Drums were not removed from the trench in order to delineate vertical extent; however, the locations of drums were documented using GPS and photographs.

Site P Step-Out Trenches

Five step-out trenches were excavated in Site P associated with AT-P-2 to delineate the extent of a significant density of drum remnants (no intact drums were found in Site P). Two step-out trenches were excavated to the north of AT-P-2 at distances of 50 (TT-P-2-N-1) and 100 (TT-P-2-N-2) feet. Metal drum remnants and fragments and industrial waste were present in TT-P-2-N-1; therefore, the step-out process was continued. No metal drums or drum fragments were observed in TT-P-2-N-2 and the density of industrial waste was not as significant as AT-P-2; therefore, further step-out trenches to the north were not excavated.

Three step-out trenches were excavated to the south of AT-P-2 at distances of 50 (TT-P-2-S-1), 100 (TT-P-2-S-2), and 150 (TT-P-2-S-3) feet. Metal drum remnants and fragments and industrial waste were present in all 3 step-out trenches; however, the step-out process was discontinued due to the location of anomaly trench AT-P-1, which was approximately 150 feet to the south of TT-P-2-S-3. Metal drum remnants were present in AT-P-1.

Step-out trenches were not excavated to the east and west of AT-P-2 due to access issues. The central ravine in Site P was less than 50 feet west of AT-P-2 and a high voltage power line prevented step-out trenches to the east of AT-P-2.

Site Q South Step-Out Trenches

Three step-out trenches were excavated in Site Q South associated with AT-Q 35 to delineate the extent of intact drums. Two step-out trenches were excavated to the west of AT-Q-35 at distances of 50 (TT-Q-35-W-1) and 100 (TT-Q-35-W-2) feet. No intact drums were present, but metal drum remnants and fragments and industrial waste were present in TT-Q-35-W-1; therefore, the step-out process was continued to delineate the extent of drum remnants and industrial waste in this area. No industrial waste or metal drums or drum fragments were observed in TT-Q-35-W-2; therefore, further step-out trenches to the west were not excavated. One step-out trench was excavated to the north of AT-Q-35 at a distance of 50 (TT-Q-35-N-1) feet. While ~4 metal drum remnants and fragments were observed in TT-Q-35-N-1, no intact metal drums were present and the density of drum remnants was not as significant as AT-Q-35; therefore, further step-out trenches to the north were not excavated.

Step-out trenches were not excavated to the east and south of AT-Q-35. The orientation of AT-Q-35 was east/west and the eastern edge of AT-Q-35 was located ~5 feet east of the toe of a sloped area assumed to be the edge of a disposal area. Intact drums and drum fragments were not present until the trench was excavated a lateral distance of ~10 feet west of the toe of the slope. In addition, the Corp of Engineers levee is less than ~100 feet east of AT-Q-35; therefore a step-out trench was not excavated to the east of AT-Q-35. A step-out trench was not excavated to the south due to the location of AT-Q-36.

Three step-out trenches were excavated in Site Q South associate with AT-Q-33 to delineate the extent of a significant density of drum remnants and industrial waste (no intact drums were found at AT-Q-33). One step-out trench was excavated to the east of AT-Q-33 at a distance of 50 (TT-Q-33-E-1) feet. While metal drum remnants and fragments were observed in TT-Q-33-E-1, no intact metal drums or industrial waste were present and the density of drum remnants was not as significant as AT-Q-33; therefore, further step-out trenches to the east were not excavated. One step-out trench was excavated to the south of AT-Q-33 at a distance of 50 (TT-Q-33-S-1) feet. Metal drum remnants or fragments and industrial waste were not observed in TT-Q-33-S-1; therefore, further step-out trenches to the south were not excavated. Due to the volume of drum remnants and industrial waste present in AT-Q-33 and the presence of drum remnants in TT-Q-33-E-1, the SA2 Sites Group agreed to excavate one additional trench (TT-Q-33-SE-1) bisecting the two step-out locations. No metal drums or drum fragments or industrial waste were observed in TT-Q-33-SE-1; therefore, further step-out trenches the step-out process was discontinued.

Step-out trenches were not excavated to the north of AT-Q-33 due the location of a buried pipeline and step-out trenches were not excavated to the west due to orientation of AT-Q-33 and the density and location of the industrial waste and drum remnants present. Industrial waste increased in thickness and density as the trench advanced to south.

5.0 DRUM INVENTORY

URS prepared an inventory of intact drums discovered during test trenching based on our review of field notes and photographs. For each trench location, the following provides the number of drums observed, descriptive information regarding drum condition and contents (where available), and URS's interpretation regarding whether or not the observed drums contained liquids constituting principal threat waste.

Site	Total No. of Intact Drums Observed	No. of Drums that Contained Liquids Constituting Principal Threat
Site O	None (only remnants or fragments)	0
Site P	None (only remnants or fragments)	0
Site Q North	None (only remnants or fragments)	0
Site Q Central	None (only remnants or fragments)	0
Site Q South	2 *	2 *
Site R	None (only remnants or fragments)	0
Site S	None (only remnants or fragments)	0

* At Site Q South (AT-Q-35) two intact drums were discovered, one of which was leaking a liquid. Since the two drums were found in close proximity to each other, to be conservative both were considered to contain liquid and be principal threat waste. Four additional drums were partially uncovered; however, it was not determined if the four partially uncovered drums were intact or contained liquid.

See Section 7 for further discussion of the drum observations.

6.0 NAPL INVESTIGATION

A NAPL Investigation was conducted as part of Phase 3 of the SI to identify the nature and extent of both residual NAPL, which remains in the interstitial spaces of the soil, and pooled NAPL, which sits on the groundwater surface (light non-aqueous phase liquids (LNAPL)) or on the bedrock surface (DNAPL). The NAPL Investigation was focused on two areas based on previous investigation results:

- LEACH-P-1
- Sonic-5

Two NAPL samples (one LNAPL, one DNAPL) were collected for laboratory analysis of chemical properties from LEACH-P-1 and one DNAPL sample from Sonic-5 was collected for laboratory analysis of mobility properties. In addition, soil borings were advanced and monitoring wells were installed around Sonic-5. Soil borings and monitoring wells were not advanced or installed adjacent to LEACH-P-1 because other sampling locations have provided a maximum lateral extent of the NAPL observed.

6.1 NAPL Borings/Monitoring Well Installation

Three soil borings were advanced to bedrock using roto-sonic drilling technology at locations approximately 50 feet south of the barrier wall in a general east/west orientation adjacent to location Sonic-5. The presence of NAPL was evaluated based upon both visual evidence and the results of hydrophobic testing (Sudan IV vial test).

Field screening of soil samples utilizing the Sudan IV dye did not indicate the presence of NAPL in any of the three soil borings. Soil samples were collected for geotechnical laboratory analysis and six samples were collected for chemical analysis from each boring advanced during the NAPL investigation.

Monitoring wells were installed at each of the three soil borings advanced as part of the NAPL investigation. NAPL was not observed in any of the wells during the six-month gauging/observation period.

6.2 NAPL Observations

During the 2004 RI, the scope of work did not include collecting samples of NAPL. During the SI, the scope of work included collecting samples of NAPL or potential NAPL for visual and laboratory analysis. If field personnel could verify phase separation was present in any liquid observed or verify the presence of NAPL via oil water interface probe in monitoring wells, the fluid was classified as NAPL. However, if field personnel were unable to collect this data (i.e. liquid flowing into a trench from a drum remnant in the side-wall of a trench) and no other evidence was present, the liquid was classified as “potential NAPL,” and as such, will not be included as principal threat wastes.

While wastes in these areas were not considered principal threat waste, the areas were discussed with EPA during development of the Feasibility Study alternatives with respect to whether a treatment alternative should be included to address those areas.

NAPL was not observed in Site O.

Site P

NAPL was observed in Site P at the following locations:

- Anomaly Trench AT-P-4 - During trenching activities, NAPL (thick, brown liquid) was present and sampled from approximately 4 feet bgs and approximately 5 feet from the northern edge of the trench. According to STL-Savannah, there was phase separation in the sample. In addition, after backfilling the trench, potential NAPL seeped out of the top of the backfill material;
- LEACH-P-1 - During sampling on monitoring well LEACH-P-1, both LNAPL and DNAPL were present. This sample was collected from ~ 24 feet bgs.

Based on these observations, the NAPL in Anomaly Trench AT-P-4 and in LEACH-P-1 are considered principal threat wastes.

Potential NAPL was observed in Site P at:

- Anomaly Trench AT-P-1 – “Clear liquid” leaked from drum remnant located approximately 20 feet bgs;
 - In addition, during trenching activities at AT-P-1, a white, cloudy liquid was encountered dripping from drum remnant located on the trenching spoils pile. After a sample was submitted for laboratory analysis, the lab reported there was no phase separation in this liquid.
- Test Trench TT-P-2-S-3 – During trenching activities, a “liquid” was encountered leaking from a 55-gal. drum fragment at ~10 feet bgs.

Liquids which leaked into the trench from drum remnants in Anomaly Trench AT-P-1 and Test Trench TT-P-2-S-3 were classified as potential NAPL; however, they did not fit the definition of NAPL and therefore will not be included as principal threat wastes.

Site Q North

NAPL was observed in five locations within Site Q North at the following locations:

- SONIC-5 - During soil boring advancement and subsequent gauging, greenish-yellow colored NAPL was observed at a depth of approximately 138 to 141 feet bgs;
- LEACH-Q-1 - During the gauging event, all liquid present (~10 feet bgs) within the well at the time of gauging was NAPL;

- PZ-6D - During piezometer installation, product sheen and odor were present from approximately 10 to 17 feet bgs, green staining and odor were present at approximately 27 feet;
- PZ-8U - During piezometer installation, odor was present at approximately 7 feet, odor was present at approximately 12 feet, oil and strong odor were present at approximately 17 feet;
- SA-Q-3 - During monitoring well installation, NAPL was observed at a depth of approximately 7 to 13 feet bgs. However, NAPL was never observed in the monitoring well installed at this boring location.

The NAPL observed within Site Q North at Sonic-5, LEACH-Q-1, PZ-6D, and PZ-8U is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2.). Since NAPL was never observed in the monitoring well SA-Q-3, this location will not be considered to have principal threat waste.

Potential NAPL was observed at one investigation location in Site Q North;

- BT-Q-1 – Potential NAPL was observed at a depth of approximately 15 feet bgs during completion of this boundary trench. The observation of liquid at the bottom of this trench precipitated extensive discussions and led to the definitions of “potential NAPL” and “NAPL.” Although Table 1a describes the liquid as NAPL, based on the current definition this liquid is classified as “potential NAPL.”

Site Q Central

At Anomaly Trench AT-Q-29 in Site Q Central, a crushed drum was encountered with potential NAPL residue on the inside walls of the drum, which was located approximately 16 feet bgs and at the western edge of the trench. In our opinion, tar-like materials or other high viscosity liquids such as was found in AT-Q-29 are not considered liquids constituting principal threat wastes. These materials are not highly mobile and would be expected to be retained in the fine-grained soils that characterize the shallow hydrogeologic unit at SA2. This potential NAPL residue will not be considered principal threat waste.

Site Q South

At Anomaly Trench AT-Q-35 in Site Q South, liquid leaked into the trench (<3 gallons) from a drum located approximately 12 feet bgs and approximately 15 feet from eastern edge of trench. This potential NAPL will not be considered principal threat waste. However, as discussed in Section 7.0, the intact drums observed at this anomaly trench location will be considered principal threat waste.

Site R

NAPL was observed in Site R at the following locations:

- B-25A - During gauging activities, trace amount of DNAPL was present on probe at ~ 30 feet bgs;
- B-25B - During gauging activities, trace amount of DNAPL was present on probe at ~ 35 feet bgs;
- B-28B - During gauging activities, trace amount of DNAPL was present on probe at ~ 35 feet bgs;
- B-29A - During gauging activities, trace amount of DNAPL was present on probe at ~ 32 feet bgs;
- B-29B - During sampling activities, approximately 1.55 feet of DNAPL was present at ~ 38 feet bgs;
- SB-1 - During soil boring installation, "product" located approximately 95 feet bgs;
- SB-3 - During soil boring installation, "yellowish water in drilling fluid" at approximately 15 feet bgs;
- SONIC #3 - During soil boring installation, "NAPL" located approximately 56 feet bgs.

The NAPL observed in Site R is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled by Operable Unit # 2.

Site S

Potential NAPL was observed in two trenches in Site S:

- Anomaly Trench AT-S-1 – “Liquid” was present in the trench near drum remnant at approximately 4 to 5 feet bgs;
- Boundary Trench BT-S-2 – “Liquid” leaked from a partially buried drum remnant located approximately 1.5 feet bgs. Although field notes describe the liquid as NAPL, based on the current definition, this liquid is classified as “potential NAPL.”

Liquids which leaked into the trenches from drum remnants in Anomaly Trench AT-S-1 and Boundary Trench BT-S-2 were classified as potential NAPL; however, they did not fit the definition of NAPL and therefore will not be included as principal threat wastes.

7.0 OBSERVATION OF DRUMS

Site O

No drums were observed in the waste materials in Site O.

Site P

Drum remnants and fragments were observed in the waste material in Site P; however, no intact drums were identified. The drums (many of which were fiber drums), found in the trenches at Site P were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site P contained liquids constituting principal threat waste.

Site Q North

Drum remnants and fragments were observed in the waste material in Site Q North; however, no intact drums were identified. The drums found in the trenches at Site Q North were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site Q North contained liquids constituting principal threat waste.

Site Q Central

Drum remnants and fragments were observed in the waste material in Site Q Central; however, no intact drums were identified. The drums found in the trenches at Site Q Central were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site Q Central contained liquids constituting principal threat waste.

Site Q South

Two intact drums were observed in Anomaly Trench AT-Q-35 in Site Q South. Potential NAPL leaked into the trench (<3 gallons) from one of these drums. In addition, four partially uncovered drums were exposed in the leading face of the trench when the trenching activities were halted. Although no analysis of the drum materials were obtained, the intact 2 drums observed in AT-Q-35 are considered principal threat wastes, while the 4 partially exposed drums (which may or may not be intact) may or may not be considered principal threat waste.

Three step-out trenches were excavated in Site Q South associate with AT-Q 35 to delineate the extent of intact drums. Two step-out trenches were excavated to the west of AT-Q-35 at distances of 50 (TT-Q-35-W-1) and 100 (TT-Q-35-W-2) feet. No intact drums were present, but metal drum remnants and fragments and industrial waste were present in TT-Q-35-W-1; therefore, the step-out process was continued. No metal drums or drum fragments or industrial waste were observed in TT-Q-35-W-2;

therefore, further step-out trenches to the west were not excavated. One step-out trench was excavated to the north of AT-Q-35 at a distance of 50 (TT-Q-35-N-1) feet. While ~4 metal drum remnants and fragments were observed in TT-Q-35-N-1, no intact metal drums were present and the density of drum remnants was not as significant as AT-Q-35; therefore, further step-out trenches to the north were not excavated. Therefore, the extent of property that might contain principal threat drums at AT-Q-35 is limited in extent (~100 square feet).

Site R

Drum remnants and fragments were observed in the waste material in Site R; however, no intact drums were identified. The drums found in the trenches at Site R were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site R contained liquids constituting principal threat waste.

Site S

Drum remnants and fragments were observed in the waste material in Site S; however, no intact drums were identified. The drums found in the trenches at Site S were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site S contained liquids constituting principal threat waste.

8.0 EVALUATION OF NAPL AND BURIED DRUMS AT SAUGET AREA 2

USEPA's expectation is that treatment will be used to address the principal threats posed by a site, wherever practical (USEPA, 1991). For sites where drums of waste are present, the most common treatment option is removal and disposal of the drums. A removal and disposal action is straightforward if the drums are located aboveground, but is much more difficult if the drums are buried in scattered locations within fill deposits or waste materials.

At large fill areas, a removal and disposal action for drums containing principal threat wastes would be practical if caches of such drums were actually present, if the caches could be located, if the drums were found to be intact, and if the drums could be safely removed in a relatively intact condition. Based on the information presented in this Tech Memo, large caches of drums containing liquid wastes or highly mobile source material in the areas previously investigated for principal threat waste at Sites O, P, Q, R, and S were not found. Principal threat wastes were observed in the following locations:

- AT-Q-35 in Site Q South: Two intact drums were found where potential NAPL leaked into the trench from one of the drums. Since the two drums were found in close proximity to each other, to be conservative, both were considered to contain liquid and be principal threat waste. The

presence of these two intact drums may be indicative of an area of principal threat waste which extends somewhat beyond the two drums.

- The NAPL observed in Anomaly Trench AT-P-4 and LEACH-P-1.
- NAPL was observed at 8 locations in Site R and is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled within the GMCS barrier wall (Operable Unit # 2).
- The NAPL observed within Site Q North at Sonic-5 and LEACH-Q-1 is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2).

9.0 REFERENCES

USEPA, 1991. "A Guide to Principal Threat and Low Level Threat Wastes", Superfund Publication 9380.3-06FS, November 1991.

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Figure 3a	Soil Gas Survey Results –Site O
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Figure 3e	Soil Gas Survey Results –Site S
Figure 4	Observed NAPL or Potential NAPL Locations
Figure 5	Principal Threat Waste Locations

List of Attachments

Attachment 1	Photographs
Attachment 2	Field Notes

cc: Brandi Higgins, URS



Tables

Table1a
Boundary and Anomaly Trenching Observations
2002
Sauget Area 2

Trench Location	Trench Date	Waste Encountered	Type of Waste Material	Evidence of Industrial Waste	Comments
SITE O					
BT-O-01	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-02	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-03	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-04	6/14/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
SITE P					
BT-P-01	6/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-P-02	6/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-P-03	6/12/2002	Yes	Municipal Waste	Drum Lid	Boundary Not Located
BT-P-04	6/12/2002	Yes	Municipal Waste	No	Boundary Not Located - Road Present in Step-Out Direction
AT-P-01	8/14/2002	Yes	Construction Debris	Drum Remnants	None
SITE Q NORTH					
BT-Q-01	6/10/2002	Yes	Municipal Waste	NAPL	Boundary Not Located - Road/Utilities Present in Step-Out Direction
BT-Q-02	NA	NA	NA	NA	Boundary Trench in Same Location as BT-R-03
BT-Q-03	6/5/2002	Yes	Municipal Waste	No	Boundary Not Located - Road Present in Step-Out Direction
BT-Q-04	NA	NA	NA	NA	Boundary Trench in Same Location as BT-R-04
BT-Q-05	6/21/2002	No	NA	No	Boundary Not Located, Wood Chips and Coal Cinders Observed Over Length of Trench
AT-Q-11	6/5/2002	Yes	Municipal Waste	Drum Remnants	Observed Fiber Drum Remnant with "Monsanto" Printed on Side
SITE Q CENTRAL					
BT-Q-06	6/6/2002	Yes	Municipal Waste	No	Boundary Not Located, Could Not Step Out Full 40' Due to Mulch Piles and Pond
AT-Q-12	6/6/2002	Yes	Construction Debris	No	None
AT-Q-13	6/6/2002	Yes	Construction Debris	No	None
AT-Q-14	6/11/2002	Yes	Construction Debris	No	None
AT-Q-15	6/7/2002	Yes	Municipal Waste	Drum Lid	None
AT-Q-16	6/11/2002	Yes	Construction Debris	No	Encountered Concrete Slab Approx. 3' bgs at 3 Offset Locations
SITE Q SOUTH					
BT-Q-07	6/10/2002	Yes	Municipal Waste	Drum Remnants	Boundary Not Located
BT-Q-08	8/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-Q-09	8/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-Q-10	8/12/2002	No	NA	No	Boundary Not Located
AT-Q-18	8/12/2002	Yes	Municipal Waste	Metal Tank ~ 55 gal.	None
SITE R					
BT-R-01	6/19/2002	Yes	Industrial Waste	White Crystalline Material	Boundary Not Located - Road Present in Step-Out Direction
BT-R-02	6/20/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
BT-R-03	6/21/2002	Yes	Industrial Waste	Drum Remnants	Boundary Not Located, Trench Location Adjacent to Site Q
BT-R-04	6/20/2002	Yes	Industrial Waste	White Crystalline Material	Boundary Located, See Field Notebook #2 for Trench Details
AT-R-01	8/13/2002	Yes	Industrial Waste	Drum Remnants	None
SITE S					
BT-S-01	6/13/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
BT-S-02	6/14/2002	Yes	Industrial Waste	Drum Remnants, NAPL	Boundary Not Located - Utilities Present in Step-Out Direction
BT-S-03	6/13/2002	No	NA	No	Boundary Not Located - Sandy Native Soil Observed Over Length of Trench
BT-S-04	6/14/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
AT-S-01	8/14/2002	Yes	Industrial Waste	Drum Remnants	URS Upgraded to Level B PPE

Notes:
NAPL - Non-Aqueous Phase Liquid
bgs - Below Ground Surface
NA - Not Applicable
Anomaly Trench AT-Q-17 was not advanced due to the placement of approximately 30' of fill material by property owner.

Table1b
Boundary and Anomaly Trenching Observations
2005
Sauget Area 2

Trench Location	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	Gross Contamination Sample Depth	Magnetic Anomaly Explained	High PID reading (ppm)	Drums/Drum Remnants Encountered	Waste Encountered	NAPL/Liquid	Notes
SITE P										
AT-P-2	5/26/2005	0-TD (21')	~18-20	10 ft bgs Drum remnants present, elevated PID reading (headspace ~181 ppm)	Yes	PID-- 208 ppm at slightly crushed drum with tan grout-like material inside	~7 slightly crushed to crushed 55-gallon metal drums ~20 fiber drum remnants	Industrial waste-- an orange powdery material, a white powdery material, black staining inside a slightly crushed metal drum, and a tan grout-like material inside a slightly crushed metal drum.	A white, cloudy liquid was encountered dripping from crushed drum. A sample of the white cloudy liquid from drum was submitted to lab for analysis. The lab reported there was no phase separation.	Trench advanced partially in Level C PPE.
AT-P-3	6/13/2005	3-TD (15-16')	~12	10 ft bgs Fiber drum remnants present	Yes	PID-- 506 ppm at small metal containers	1 slightly crushed 55-gallon metal drum ~50-75% of backhoe buckets contained fiber drum remnants/fragments.	Industrial waste-- a crystalline solid, magenta stained soils/waste, an orange powdery material, a yellow, powdery substance, a yellow solid, a white solid, and a tan grout-like material. ~10 small metal containers (some with lime green solids) Municipal waste-- paper, plastic, glass, fabric, cans Construction debris-- concrete slabs, brick, metal debris and rubber		
AT-P-4	5/25/2005	0-17	~8	4 ft bgs Drum remnants and NAPL present	Yes	PID-- ~220 ppm at crushed drum with white crystalline contents	~10-12 slightly crushed to crushed 55-gallon metal drums, ~ ½ of which contained solid wastes ~20-30 fiber drum remnants	Industrial waste-- colored solids / white crystalline materials and rounded brown ball bearing, purple, tan, and green solids, black stained soil in drum remnant	NAPL observed dripping from one bucket of spoils. NAPL on fiberglass gas cylinder	Submitted a sample of the NAPL dripping from bucket for analysis.
AT-P-5	6/9/2005 & 6/10/2005	3-14	~13	12 ft bgs Crushed drum present, elevated PID readings (headspace ~ 98 ppm)	Yes	PID-- 1,072 ppm at metal bucket containing an orange solid	2 slightly crushed 55-gallon metal drums were observed, contained a yellow-orange fibrous material and PPE (with a propylene oxide label) ~4 metal drum remnants,deteriorated ~20 fiber or plastic drum remnants ~2 slightly crushed fiber drums	Industrial waste-- grout-like substance, black staining/oily sheen on plastic drum lids, dried paint and green staining in fiber drum. ~50 1-2 gallon metal crushed or partially crushed buckets/containers		The trench was moved approximately 150 feet west of original location and rotated to a north-south alignment in order to place trench west of the nightclub asphalt parking lot/fence.
SITE Q NORTH										
AT-Q-19	5/16/2005	0.5 - 7-9			Yes			Construction debris-- Concrete, bricks, piece of metal		
AT-Q-20	5/12/2005	3.5-25*	~25		Yes			Construction debris-- Concrete, rebar Municipal waste-- car batteries, tires, wood, plastic, light green crystal material At ~18' bgs - TD, waste materials mixed within sands	*	
AT-Q-21	5/13/2005	1-14.5	~11.5	8 ft bgs Sheen observed on spoils/surface of groundwater within trench	Yes			Industrial waste-- 1 drum lid Municipal waste-- trash, tires, hose, pieces of wood Construction debris-- concrete, rebar		Per field agreement between URS and CH2M HILL, confining clay layer (~15' bgs) was not penetrated during trenching so conduit for perched water table was not created.
SITE Q CENTRAL										
AT-Q-22	6/8/2005	0-3	~20		Yes	.		Construction debris-- 2' piece scrap metal		
AT-Q-23	5/3/2005	0-5	~20		Yes			Construction debris-- concrete slab		
AT-Q-24	5/4/2005	0-20			Yes			Construction debris-- concrete, rebar		Rotated to north-south alignment due to obstructions
AT-Q-25	5/9/2005	2 - 15'		9 ft bgs Drum remnants present	Yes	PID-- 400 ppm at spoils pile from deeper portion of trench	~5 drum remnants observed	Industrial waste-- Yellow crystalline solid in 5-gallon pail, 55-gallon drum remnant containing tan grout-like substance observed, white powdering material, and orange solid material. Municipal waste-- trash, plastic Construction debris-- concrete, rebar		~ 15' in length of trench not excavated completely through waste after BZ PID measurements recorded in exceedance of action levels. Subsurface and surface soil samples not collected since soil samples collected from shallow aquifer well, SA-Q-6 (located ~10 feet north of trench) per agreement with USEPA.
AT-Q-26	5/4/2005	0-20	~20		Yes			Construction debris-- Rebar, concrete, man-hole lid, metal		
AT-Q-27	5/5/2005	0-7			Yes			Construction debris-- Rebar, concrete, wood, pipes, bricks,		

Table1b
Boundary and Anomaly Trenching Observations
2005
Sauget Area 2

Trench Location	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	Gross Contamination Sample Depth	Magnetic Anomaly Explained	High PID reading (ppm)	Drums/Drum Remnants Encountered	Waste Encountered	NAPL/Liquid	Notes
AT-Q-28	5/5/2005	0- 3.5-5.5	~18		Yes			Construction debris-- steel door, table, pieces of metal		
AT-Q-29	5/6/2005 & 6/2/2005	3 - 16.5-23'	~23	16 ft bgs Drum remnants present	Yes	PID-- 53.5 ppm at drum remnant	~6 drum remnants	Industrial waste-- 1 drum remnanat coated with black oily substance on inside, several drum remnants contained paint and fibrous material Municipal waste-- trash, plastic, bottles, Construction debris-- scrap metal Depth of waste tapered deeper toward river	Drum remnanat coated with black oily substance on inside	Trench was excavated on multiple days due to necessity of excavator with greater reach. Mobilized "long-stick" excavator in order to trench through waste to native soils.
AT-Q-30	5/10/2005 5/11/2005 & 6/3/2005	1-24'			Yes			Construction debris-- concrete, rebar, wood, brick Municipal waste-- metal fragments, tires		Moved west due to high voltage power lines. Trench was excavated on multiple days due to necessity of excavator with greater reach. Mobilized "long-stick" excavator in order to trench through waste to native soils.
AT-Q-31	5/2/2005 to 5/3/2005	2-22'		12 ft bgs Drum remnant present	Yes		1 drum remnant	Municipal waste --metal debris, tires, bottles, RR ties Industrial waste --small drum/container (~5-10 gallon), drum lid Construction debris--brick, concrete		
AT-Q-32	5/24/2005	4-8'		6 ft bgs Headspace-342 ppm	Yes	PID-- 342 ppm- Headspace on gross contamination sample		Municipal waste-- trash, plastic, bottles, cans, metal debris, wood/timbers, tires, and shredded rubber Industrial waste-- ~5 drum lids		Trench partially excavated in Level C
SITE Q SOUTH										
AT-Q-33	5/20/2005	0.5-4 to 0-12		5 ft bgs Crushed drum, elevated PID readings (scan of drum (>4000 ppm))	Yes	PID-- 4000 ppm at crushed drum	~4-7 drum remnants at southern end of trench	Northern end of trench-- Construction debris-- brick, rebar, concrete Southern end of trench-- Industrial waste-- potential gas cylinder, tank, chemical solids Municipal waste-- wood debris / timbers		Trench excavated in Level B PPE. Waste increased in thickness and became more industrial / municipal as trench advanced to south. Location moved to south and aligned north-south to investigate northern edge of elevated area in Q South.
AT-Q-34	5/23/2005	0.5-4 to 0-8			Yes		One drum lid	Municipal waste-- wood, metal debris, trash Construction debris-- bricks Industrial waste-- a lab pack containing four 1-gallon bottles of acid in polystyrene pack		Trench excavated in Level B PPE.
AT-Q-35	5/19/2005	0-TD (20')	~18	8 ft bgs Drums present	Yes	PID-- > 600 ppm at yellow solid material (in drum torn in half by trackhoe)	~2 potentially intact 55 gallon metal drums and ~8 drum remnanats	Industrial waste-- Yellow solid material in drum (torn 1/2 by trackhoe) solids, paint, rubber-like pellets, staining, rubber, plastic Construction debris-- brick and wood	Liquid observed draining into trench potentially from drum in side wall of trench.	Trench excavated in Level B PPE. Trench halted after significant number of drums observed, ~ 4 partially uncovered drums exposed in leading face of trench Trench straddled bank / increase in surface elevation of 6-8 ft into trees. Location moved to west across elevated area and aligned east-west.
AT-Q-36	5/18/2005	0-10			Yes			Municipal waste-- tires, plastic, fabric, appliances, glass, and paper		Trench excavated in Level B PPE based on anticipation of drums in area, air monitoring during excavation did not indicate elevated levels of organic vapors. Trench straddled bank / increased surface elevation into trees. Waste thickness remained approximately consistent on both sides of the 6-8 ft bank.

Table 1c
Step-out Test Trenching Observations
2005
Sauget Area 2

Original Trench ID	Step-out Test Trench ID	Location Description	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	High PID reading (ppm)	Drum/Drum Remnants Encountered	Waste Encountered	Step-out further (in same direction)?	Notes
SITE P										
AT-P-2	TT-P-2-N-1	50' north of original trench location	6/6/2005	0-TD (21')	20	PID-- 40 ppm at 5-10 gal metal container	Fiber drums remnants and fragments (>30) in various states of deterioration	Industrial waste-- Small metal pail / containers (2-3) observed, drum lids, bright orange/yellow powder and a white fibrous material. Municipal waste-- wood, cinders, concrete, bricks, rubber boots/gloves, paper, and fabric	Yes	
	TT-P-2-N-2	100' north of original trench location	6/6/2005	3-TD (15')		PID-- 70 ppm at metal pail	~8 fiber drum remnanats and numerous fragments	Industrial waste-- a bright yellow powder and a metal pail with tan solid material Municipal waste-- wood, paper, plastic, trash, empty bags of zinc oxide	No	Test trench excavated in Level C PPE. No metal drums or drum fragments were observed in the trench and the density of industrial was not as significant as AT-P-2, therefore, further step-out to the north was not conducted.
	TT-P-2-S-1	50' south of original trench location	6/7/2005	3-TD	18-20	PID-- 202 ppm at container labeled aryl sulfonamide formaldehyde	1 crushed 55-gallon metal drum ~7-10 fiber drum remnants	Industrial waste-- 5-10 gal metal bucket labeled aryl sulfonamide formaldehyde, fiber drum remnants w/white powder Municipal waste-- bricks, wood, newspaper, and trash bags	Yes	
	TT-P-2-S-2	100' south of original trench location	6/7/2005	3-TD			2 drum remnants ~2 crushed metal 55-gallon drums		Yes	
	TT-P-2-S-3	150' south of original trench location	6/7/2005	0-TD		PID-- 86 ppm at purple staining	~ 2 crushed metal drums ~ 2 remnants or fragments ~3-4 fiber drum fragments, some with purple staining	Industrial waste-- purple staining on fiber drum remnants, crushed drum with black staining and liquid leaking out. Municipal waste-- wood, trash bags, fabric, plastic, and metal debris.	No	Did not step-out due to anomaly trench approx. 150' south, which was previously observed to contain 55-gal. metal drums remnants. (AT-P-1 from RI, August 2002).
SITE Q SOUTH										
AT-Q-35	TT-Q-35-W-1	50' west of original trench location	5/31/2005	0.5-12		PID-- 230 ppm at purple/grey material in one drum	Drum remnants and ~2 crushed drums	Industrial waste-- purple/grey rubbery material observed in one drum remnant. Municipal waste-- tires, metal debris, plastic, glass, wood, and fabric Construction debris-- rebar, bricks	Yes	Test trench excavated in Level B PPE.
	TT-Q-35-W-2	100' west of original trench location	5/31/2005	0-8	18			Municipal waste-- plastic, shredded tires, household trash, wood, fabric Construction debris-- concrete & rebar, cinders, and wood	No	Test trench excavated in Level B PPE.
	TT-Q-35-N-1	50' north of original trench location	5/31/2005	0-20	18		~4 drum fragments/ remnants	Municipal waste-- yellow solid, tires, wood, trash (plastic etc.) Construction debris-- concrete, rebar, metal debris	No	Test trench excavated in Level B PPE.
AT-Q-33	TT-Q-33-E-1	50' east of original trench location	6/1/2005	0-20			Two crushed metal drum remnants and one plastic	Municipal waste-- wood debris, timbers, scrap metal, insulation, bottles, household trash Construction debris-- concrete	No	Test trench excavated in Level B PPE.
	TT-Q-33-S-1	50' south of original trench location	6/1/2005	0-14				Municipal waste-- tires, fabric, wood, concrete, plastic, metal debris, and trash	No	Test trench excavated in Level B PPE.
	TT-Q-33-SE-1	50' southeast of original trench location (bisecting first 2 step-out trenches)	6/1/2005	0.5-18				Municipal waste-- plastic, tires, wood debris/timbers, bottles, fabric, paper waste, cinders, concrete, glass fragments.	No	Test trench excavated in Level B PPE.

Notes:
NAPL - Non-Aqueous Phase Liquid
bgs - Below Ground Surface



Attachment 1

Photo Log Site P

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 8/14/02		
Description: Anomaly Trench-P-1 Before			
Direction Photo Taken: West			

Photo No. 2	Date: 8/14/02	
Description: Anomaly Trench -P-1 Before		
Direction Photo Taken: West		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 3	Date: 8/14/02		
Description: Anomaly Trench -P-1			

Photo No. 4	Date: 8/14/02	
Description: Anomaly Trench -P-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 5	Date: 8/14/02		
Description: Anomaly Trench-P-1			

Photo No. 6	Date: 8/14/02	
Description: Anomaly Trench-P-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 7	Date: 8/14/02		
Description: Anomaly Trench-P-1			

Photo No. 8	Date: 8/14/02	
Description: Anomaly Trench-P-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 9	Date: 8/14/02		
Description: Anomaly Trench-P-1			

Photo No. 10	Date: 8/14/02	
Description: Anomaly Trench-P-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 11	Date: 8/14/02		
Description: Anomaly Trench-P-1			

Photo No. 12	Date: 8/14/02	
Description: Anomaly Trench -P-1		
Direction Photo Taken: Northwest		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 13	Date: 8/14/02		
Description: Anomaly Trench-P-1 After			
Direction Photo Taken: Northwest			

Photo No. 14	Date: 8/14/02	
Description: Anomaly Trench-P-1 After		
Direction Photo Taken: West		



PHOTOGRAPHIC LOG

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 1	Date: 5/25/05		
Description: Setting up at AT-P-4			

Photo No. 2	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 3	Date: 5/25/05		
Description: AT-P-4			

Photo No. 4	Date: 5/25/05	
Description: AT-P-4		



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 5	Date: 5/25/05		
Description: AT-P-4			

Photo No. 6	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 7	Date: 5/25/05		
Description: AT-P-4			

Photo No. 8	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 9	Date: 5/25/05		
Description: AT-P-4			

Photo No. 10	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 11	Date: 5/25/05		
Description: AT-P-4			

Photo No. 12	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 13	Date: 5/25/05		
Description: AT-P-4			

Photo No. 14	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 15	Date: 5/25/05		
Description: AT-P-4			

Photo No. 16	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 17	Date: 5/25/05		
Description: AT-P-4			

Photo No. 18	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 19	Date: 5/25/05		
Description: AT-P-4			

Photo No. 20	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 21	Date: 5/25/05		
Description: AT-P-4			

Photo No. 22	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 23	Date: 5/25/05		
Description: AT-P-4			

Photo No. 24	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 25	Date: 5/25/05		
Description: AT-P-4			

Photo No. 26	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 27	Date: 5/25/05		
Description: AT-P-4			

Photo No. 28	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 29	Date: 5/25/05		
Description: AT-P-4			

Photo No. 30	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 31	Date: 5/25/05		
Description: AT-P-4			

Photo No. 32	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 33	Date: 5/25/05		
Description: AT-P-4			

Photo No. 34	Date: 5/25/05	
Description: AT-P-4		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 35	Date: 5/25/05		
Description: AT-P-4			

Photo No. 36	Date: 5/25/05	
Description: AT-P-4 after backfilling and trenching activities completed		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 37	Date: 5/25/05		
Description: AT-P-4			

Photo No. 38	Date: 5/25/05	
Description: AT-P-4		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 1	Date: 7/26/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Photo No. 2	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 3	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 4	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 5	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 6	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 7	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 8	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 9	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 10	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 1	Date: 7/26/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Photo No. 2	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 3	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			


Photo No. 4	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 5	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 6	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 7	Date: 7/26/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 8	Date: 7/26/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 9	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 10	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL.			

Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 11	Date: 7/27/06
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Description:
Leach-P-1
Bailer covered in NAPL
on first attempt to
collect a sample.




Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 12	Date: 7/27/06
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Description:
Leach-P-1
Bailer covered in NAPL
on first attempt to
collect a sample.



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 13	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL on second attempt to collect sample.			

Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 14	Date: 7/27/06
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Description:
Leach-P-1
Bailer covered in NAPL,
on third attempt to
collect sample.



Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 15	Date: 7/27/06
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Description:
Leach-P-1
Bailer covered in NAPL



Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 16	Date: 7/27/06
Description: Leach-P-1 Bailer covered in NAPL.	



Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 17	Date: 7/27/06		
Description: Leach-P-1 Bailer covered in NAPL. Unable to collect sample.			

Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 18	Date: 7/27/06
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Description:
Leach-P-1
Bailer covered in NAPL.
Unable to collect
sample.



Client Name: Sauget Area 2 Sites Group	Site Location: Sauget, Illinois	Project No. 21561683
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Photo No. 19	Date: 7/27/06
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Description:
Leach-P-1





PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561683

Photo No.
20

Date:

Description:
Leach-P-1.





Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 21	Date: 7/27/06		
Description: Leach-P-1			

Photo No. 22	Date: 7/27/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 23	Date: 7/27/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Photo No. 24	Date: 7/27/06	
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 25	Date: 7/27/06		
Description: Leach-P-1 Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.			

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 1	Date: 6/7/05		
Description: TT-P-2-S3			

Photo No. 2	Date: 6/7/05	
Description: TT-P-2-S3		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 3	Date: 6/7/05		
Description: TT-P-2-S3			

Photo No. 4	Date: 6/7/05	
Description: TT-P-2-S3		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 5	Date: 6/7/05		
Description: TT-P-2-S3			

Photo No. 6	Date: 6/7/05	
Description: TT-P-2-S3		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 7	Date: 6/7/05		
Description: TT-P-2-S3			

Photo No. 8	Date: 6/7/05	
Description: TT-P-2-S3		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 9	Date: 6/7/05		
Description: TT-P-2-S3			

Photo No. 10	Date: 6/7/05	
Description: TT-P-2-S3		



PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561510

Photo No.

11

Date:

6/7/05

Description:

TT-P-2-S3





Attachment 1

Photo Log Site Q



PHOTOGRAPHIC LOG


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 1	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 2	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 3	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 4	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 5	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 6	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 7	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 8	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 9	Date: 6/2/05		
Description: AT-Q-29 6-2-05, using excavator with longer reach			

Photo No. 10	Date: 6/2/05	
Description: AT-Q-29		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 11	Date: 6/2/05		
Description: AT-Q-29			

Photo No. 12	Date: 6/2/05	
Description: AT-Q-29		



PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561510

Photo No.

13

Date:

6/2/05

Description:

AT-Q-29





Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 14	Date: 5/6/05		
Description: AT-Q-29 before trenching activities			

Photo No. 15	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 16	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 17	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 18	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 19	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 20	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 21	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 22	Date: 5/6/05		
Description: AT-Q-29			

Photo No. 23	Date: 5/6/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 24	Date: 6/2/05		
Description: AT-Q-29			

Photo No. 25	Date: 6/2/05	
Description: AT-Q-29		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 26	Date: 6/2/05		
Description: AT-Q-29			

Photo No. 27	Date: 6/2/05	
Description: AT-Q-29		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 1	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 2	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 3	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 4	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 5	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 6	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 7	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 8	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 9	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 10	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 11	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 12	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 13	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 14	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 15	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 16	Date: 5/19/05	
Description: AT-Q-35		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 17	Date: 5/19/05		
Description: AT-Q-35			

Photo No. 18	Date: 5/19/05	
Description: AT-Q-35 After backfilling activity		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 6/4/02		
Description: Boundary Trench-Q-1 Before – 1 st Attempt			
Direction Photo Taken: South			

Photo No. 2	Date: 6/4/02	
Description: Boundary Trench-Q-1 Before		
Direction Photo Taken: South		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 3	Date: 6/4/02		
Description: Boundary Trench-Q-1 Before			
Direction Photo Taken: Southeast			

Photo No. 4	Date: 6/4/02	
Description: Boundary Trench-Q-1		
Direction Photo Taken: Northeast		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 5	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 6	Date: 6/4/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 7	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 8	Date: 6/4/02	
Description: Boundary Trench-Q-1		
Direction Photo Taken: West		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 9	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 10	Date: 6/4/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 11	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 12	Date: 6/4/02	
Description: Boundary Trench-Q-1		


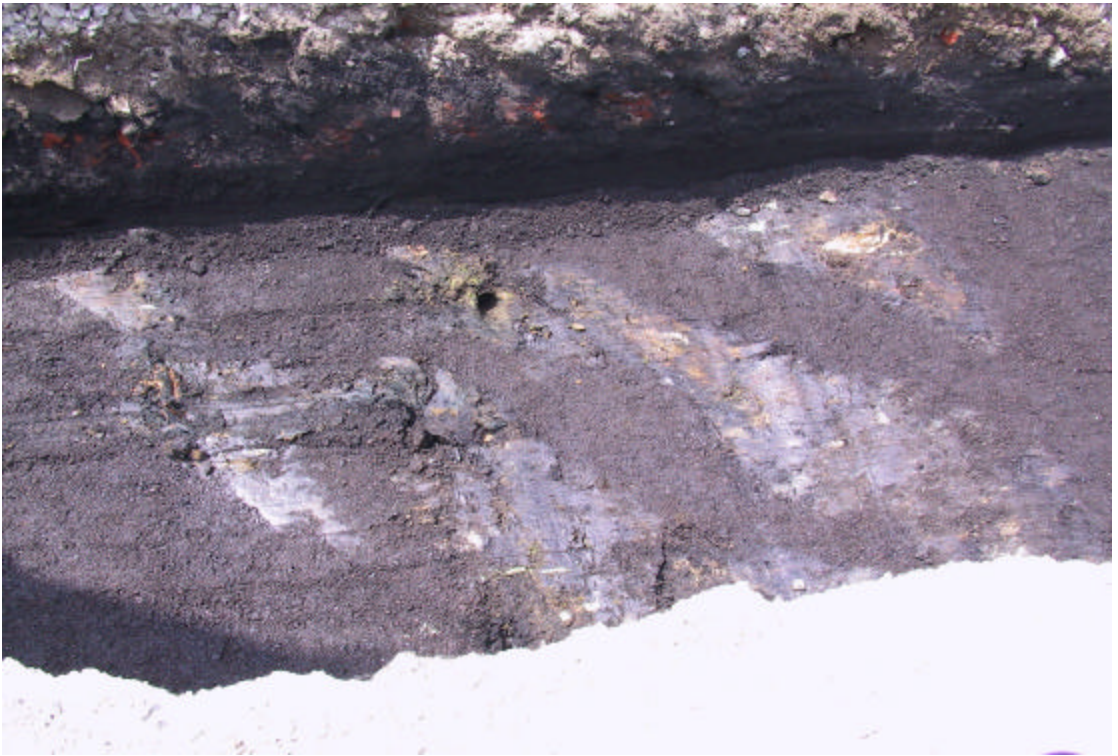
Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 13	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 14	Date: 6/4/02	
Description: Boundary Trench-Q-1		



Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 15	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 16	Date: 6/4/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 17	Date: 6/4/02		
Description: Boundary Trench-Q-1			
Direction Photo Taken: South			

Photo No. 18	Date: 6/4/02	
Description: Boundary Trench-Q-1		
Direction Photo Taken: West		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 19	Date: 6/4/02		
Description: Boundary Trench-Q-1			

Photo No. 20	Date: 6/4/02	
Description: Boundary Trench-Q-1		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 21	Date: 6/4/02		
Description: Boundary Trench-Q-1 After			
Direction Photo Taken: East			

Photo No. 22	Date: 6/4/02	
Description: Boundary Trench-Q-1 After		
Direction Photo Taken: Southeast		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 23	Date: 6/4/02		
Description: Boundary Trench-Q-1 After			
Direction Photo Taken: Southeast			

Photo No. 24	Date: 6/4/02	
Description: Boundary Trench-Q-1 After		
Direction Photo Taken:		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 25	Date: 6/4/02		
Description: Boundary Trench-Q-1 After			
Direction Photo Taken: South			

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 26	Date: 6/10/02		
Description: Boundary Trench-Q-1 Before – Offset location, 2 nd Attempt			
Direction Photo Taken: East			

Photo No. 27	Date: 6/10/02	
Description: Boundary Trench-Q-1 Before		
Direction Photo Taken: Southeast		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 28	Date: 6/10/02		
Description: Boundary Trench-Q-1			
Direction Photo Taken: Southwest			

Photo No. 29	Date: 6/10/02	
Description: Boundary Trench-Q-1		
Direction Photo Taken: West		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 30	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 31	Date: 6/10/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 32	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 33	Date: 6/10/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 34	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 35	Date: 6/10/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 36	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 37	Date: 6/10/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 38	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 39	Date: 6/10/02	
Description: Boundary Trench-Q-1		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 40	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 41	Date: 6/10/02	
Description: Boundary Trench-Q-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 42	Date: 6/10/02		
Description: Boundary Trench-Q-1			

Photo No. 43	Date: 6/10/02	
Description: Boundary Trench-Q-1		
Direction Photo Taken: Northwest		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 44	Date: 6/10/02		
Description: Boundary Trench-Q-1 After			
Direction Photo Taken: East			

Photo No. 45	Date: 6/10/02	
Description: Boundary Trench-Q-1 After		
Direction Photo Taken: South		



Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 7/26/02		
Description: Well Sampling Leachate-Q-1			

Photo No. 2	Date: 7/26/02	
Description: Well Sampling Leachate-Q-1		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 3	Date: 7/26/02		
Description: Well Sampling Leachate-Q-1			


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 1	Date: 5/10/06		
Description: NAPL-A (0-5')			

Photo No. 2	Date: 5/10/06	
Description: NAPL-A (0-5')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 3	Date: 5/10/06		
Description: NAPL-A (5-15')			

Photo No. 4	Date: 5/10/06	
Description: NAPL-A (5-15')		



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 5	Date: 5/10/06	 A photograph showing a dark, moist soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text "NAPL-A" and "5-15" is placed on top of the soil. The background is a light-colored, textured surface.	
Description: NAPL-A (5-15')			

Photo No. 6	Date: 5/10/06	 A photograph showing a dark, moist soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text "NAPL-A" and "15-35" is placed on top of the soil. The background is a light-colored, textured surface.
Description: NAPL-A (15-35')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 7	Date: 5/10/06	 A photograph showing a dark, clumpy soil sample in a clear plastic bag. A white label with blue handwritten text "NAPL-A" and "35-55'" is placed on top of the soil. The background is a light-colored, textured surface.	
Description: NAPL-A (35-55')			

Photo No. 8	Date: 5/10/06	 A photograph showing a dark, clumpy soil sample in a clear plastic bag. A white label with blue handwritten text "NAPL-A" and "35-55'" is placed on top of the soil. The background is a light-colored, textured surface. A portion of a black shoe is visible in the bottom left corner.
Description: NAPL-A (35-55')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 9	Date: 5/10/06	 A photograph of a dark, granular soil sample placed on a light-colored, possibly plastic, surface. A small white label with blue handwritten text "NAPL-A" and "55-75" is positioned on top of the soil. There are some brownish stains on the surface around the sample.	
Description: NAPL-A (55-75')			

Photo No. 10	Date: 5/10/06	 A photograph of a dark, granular soil sample, similar to the one in the previous photo, placed on a light-colored surface. A small white label with blue handwritten text "NAPL-A" and "75-95" is positioned on top of the soil. The soil appears slightly more clumpy than in the previous photo.
Description: NAPL-A (75-95')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 11	Date: 5/10/06		
Description: NAPL-A (75-95')			

Photo No. 12	Date: 5/10/06
Description: NAPL-A (95-115')	

A photograph showing a dark, granular soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text is placed on top of the soil. The label reads "NAPL-A" on the top line and "95-115" on the bottom line. The background is a light-colored, textured surface.


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 13	Date: 5/10/06		
Description: NAPL-A (115-135')			

Photo No. 14	Date: 5/10/06	
Description: NAPL-A (115-135')		

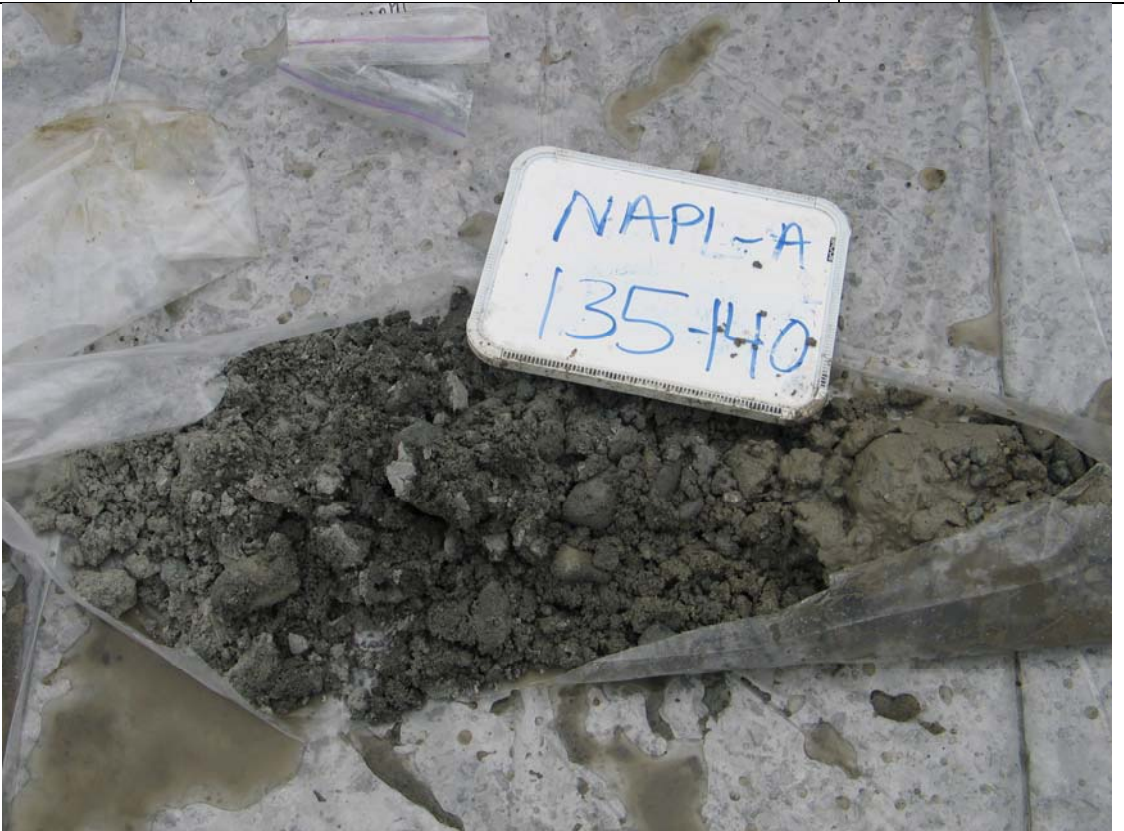

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 15	Date: 5/10/06		
Description: NAPL-A (135-140')			

Photo No. 16	Date: 5/10/06	
Description: NAPL-A (135-140')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 1	Date: 5/9/06		
Description: NAPL-B (0-5')			

Photo No. 2	Date: 5/9/06	
Description: NAPL-B (0-5')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 3	Date: 5/9/06	 A photograph showing a dark, granular soil sample in a clear plastic bag. A white label with blue handwritten text "NAPL-B" and "5-15" is placed on top of the sample. The sample is resting on a light-colored, textured surface.	
Description: NAPL-B (5-15')			

Photo No. 4	Date: 5/9/06	 A photograph showing a dark, granular soil sample in a clear plastic bag. A white label with blue handwritten text "NAPL-B" and "5-15" is placed on top of the sample. The sample is resting on a light-colored, textured surface.
Description: NAPL-B (5-15')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 5	Date: 5/9/06	 A photograph showing a white, rectangular container with a metal rim. The container is placed on a dark, possibly black, plastic liner. The container has "NAPL-B" and "5-15" written on it in blue marker. The background is a light-colored, textured surface, possibly concrete or gravel.	
Description: NAPL-B (5-15')			

Photo No. 6	Date: 5/9/06	 A photograph showing a white, rectangular container with a metal rim. The container is placed on a dark, possibly black, plastic liner. The container has "NAPL-B" and "15-25" written on it in blue marker. The background is a light-colored, textured surface, possibly concrete or gravel. A black shoe is visible in the bottom left corner of the image.
Description: NAPL-B (15-25')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 7	Date: 5/9/06		
Description: NAPL-B (25-35')			

Photo No. 8	Date: 5/9/06	
Description: NAPL-B (25-35')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 9	Date: 5/9/06	 A photograph showing a dark, clumpy soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text "NAPL-B" and "35-55" is placed on top of the soil. The background is a light-colored, possibly concrete, surface.	
Description: NAPL-B (35-55')			

Photo No. 10	Date: 5/9/06	 A photograph showing a dark, clumpy soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text "NAPL-B" and "35-55" is placed on top of the soil. The background is a light-colored, possibly concrete, surface. A portion of a black shoe is visible in the bottom left corner.
Description: NAPL-B (35-55')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 11	Date: 5/9/06		
Description: NAPL-B (55-75')			

Photo No. 12	Date: 5/9/06	
Description: NAPL-B (55-75')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 13	Date: 5/9/06	 A photograph showing a dark, clumpy soil sample placed on a light-colored concrete surface. A white piece of paper with the handwritten text "NAPL-B" and "75-95" is positioned behind the soil. The soil is partially enclosed by a clear plastic bag.	
Description: NAPL-B (75-95')			

Photo No. 14	Date: 5/9/06	 A photograph showing a dark, clumpy soil sample placed on a light-colored concrete surface. A white piece of paper with the handwritten text "NAPL-B" and "75-95" is positioned behind the soil. The soil is partially enclosed by a clear plastic bag.
Description: NAPL-B (75-95')		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 15	Date: 5/9/06	 A photograph showing a pile of dark, clumpy soil or sediment. A white piece of paper with the handwritten text "NAPL-B 95-115" is placed on top of the pile. The sample is resting on a light-colored, possibly concrete, surface. Some clear plastic bags are visible around the base of the pile.	
Description: NAPL-B (95-115')			

Photo No. 16	Date: 5/9/06	 A photograph showing a pile of dark, clumpy soil or sediment, similar to the one in the previous photo. A white piece of paper with the handwritten text "NAPL-B 95-115" is placed on top of the pile. The sample is resting on a light-colored, possibly concrete, surface. Some clear plastic bags are visible around the base of the pile.	
Description: NAPL-B (95-115')			


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 17	Date: 5/9/06	 A photograph showing a soil sample in a clear plastic bag. The soil is dark brown and appears to be a fine-grained material. A white piece of paper is placed on top of the bag with the handwritten text "NAPL-B" and "115-135". The bag is resting on a light-colored, possibly concrete, surface.	
Description: NAPL-B (115-135')			

Photo No. 18	Date: 5/9/06	 A photograph showing a soil sample in a clear plastic bag. The soil is dark brown and appears to be a fine-grained material. A white piece of paper is placed on top of the bag with the handwritten text "NAPL-B" and "115-135". The bag is resting on a light-colored, possibly concrete, surface. A person's foot is visible in the bottom left corner of the frame.
Description: NAPL-B (115-135')		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 19	Date: 5/9/06		
Description: NAPL-B			

Photo No. 20	Date: 5/9/06	
Description: NAPL-B (135-140')		



PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561683

Photo No.

21

Date:

5/9/06

Description:

NAPL-B (135-140')




Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 1	Date: 5/8/06		
Description: NAPL-C (0-5')			

Photo No. 2	Date: 5/8/06	
Description: NAPL-C (0-5')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 3	Date: 5/8/06		
Description: NAPL-C (5-10')			

Photo No. 4	Date: 5/8/06	
Description: NAPL-C (5-10')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 5	Date: 5/8/06	 A photograph of a soil sample. The sample is dark, clumpy, and appears to be a mixture of soil and some organic material. It is contained within a clear plastic bag. A white label with blue handwritten text "NAPL-C" and "5-10" is placed on top of the sample. The background is a light-colored, textured surface, possibly gravel or concrete.	
Description: NAPL-C (5-10')			

Photo No. 6	Date: 5/8/06	 A photograph of a soil sample. The sample is dark, clumpy, and appears to be a mixture of soil and some organic material. It is contained within a clear plastic bag. A white label with blue handwritten text "NAPL-C" and "15-25" is placed on top of the sample. The background is a light-colored, textured surface, possibly gravel or concrete.
Description: NAPL-C (15-25')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 7	Date: 5/8/06		
Description: NAPL-C (15-25')			

Photo No. 8	Date: 5/8/06	
Description: NAPL-C (15-25')		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 9	Date: 5/8/06		
Description: NAPL-C (25-35')			

Photo No. 10	Date: 5/8/06	
Description: NAPL-C (25-35')		

Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 11	Date: 5/8/06	 A photograph showing a clear plastic Ziploc bag filled with dark, clumpy soil. A white label with blue handwritten text "NAPL-C 25-35" is placed on top of the soil. The bag is resting on a light-colored, textured surface.	
Description: NAPL-C (25-35')			

Photo No. 12	Date: 5/8/06	 A photograph showing a clear plastic Ziploc bag filled with dark, clumpy soil. A white label with blue handwritten text "NAPL-C 35-55" is placed on top of the soil. A person wearing a white long-sleeved shirt and blue nitrile gloves is visible on the left, reaching into the bag. The bag is resting on a light-colored, textured surface.
Description: NAPL-C (35-55')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 13	Date: 5/8/06		
Description: NAPL-C (35-55')			

Photo No. 14	Date: 5/8/06	
Description: NAPL-C (55-75')		

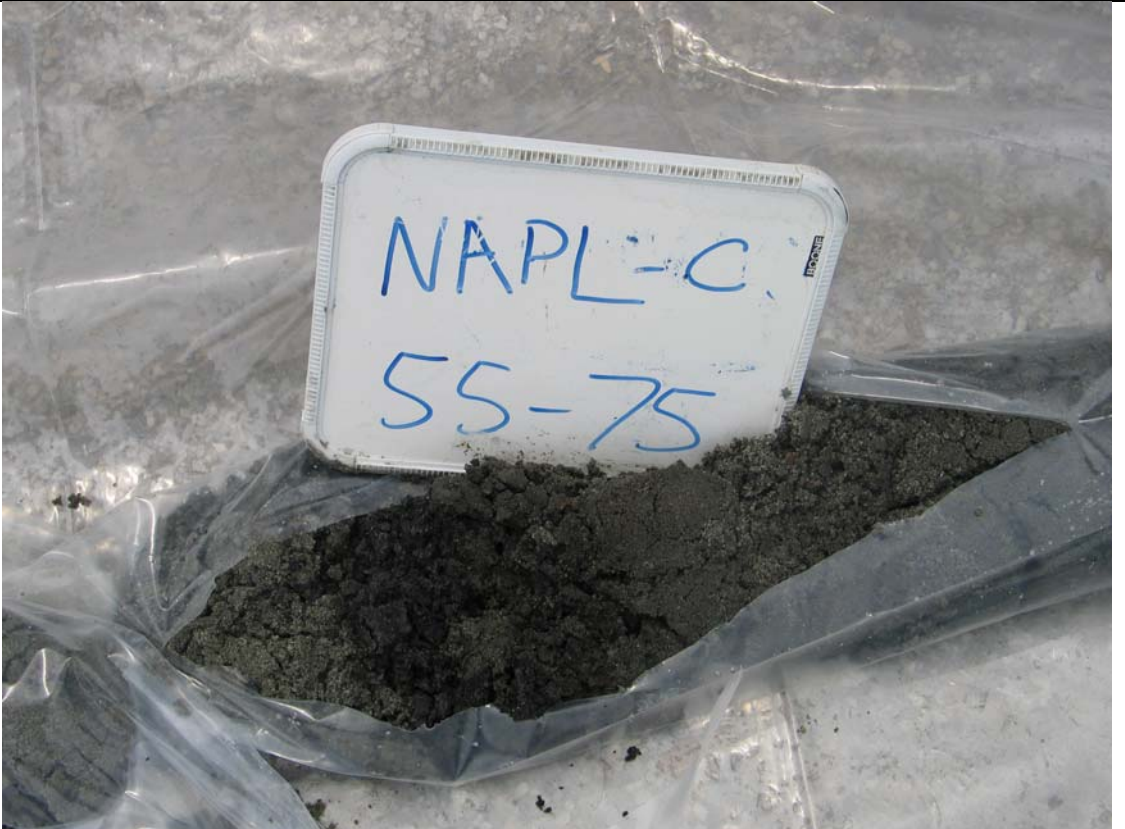
Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 15	Date: 5/8/06	 A photograph showing a dark, granular soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text is placed on top of the soil. The label reads "NAPL-C" on the first line and "55-75" on the second line. The background is a light-colored, possibly concrete, surface.	
Description: NAPL-C (55-75')			

Photo No. 16	Date: 5/8/06	 A photograph showing a dark, granular soil sample contained within a clear plastic bag. A white rectangular label with blue handwritten text is placed on top of the soil. The label reads "NAPL-C" on the first line and "75-95" on the second line. The background is a light-colored, possibly concrete, surface.
Description: NAPL-C (75-95')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 17	Date: 5/8/06		
Description: NAPL-C (75-95')			

Photo No. 18	Date: 5/8/06	
Description: NAPL-C (95-115')		



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 19	Date: 5/8/06	 A photograph showing a dark, granular soil sample contained within a clear plastic bag. A white rectangular label is placed on top of the soil, with the handwritten text "NAPL-C" and "95-115" in blue ink.	
Description: NAPL-C (95-115')			

Photo No. 20	Date: 5/8/06	 A photograph showing a dark, granular soil sample contained within a clear plastic bag. A white rectangular label is placed on top of the soil, with the handwritten text "NAPL-C" and "115-135" in blue ink.
Description: NAPL-C (115-135')		

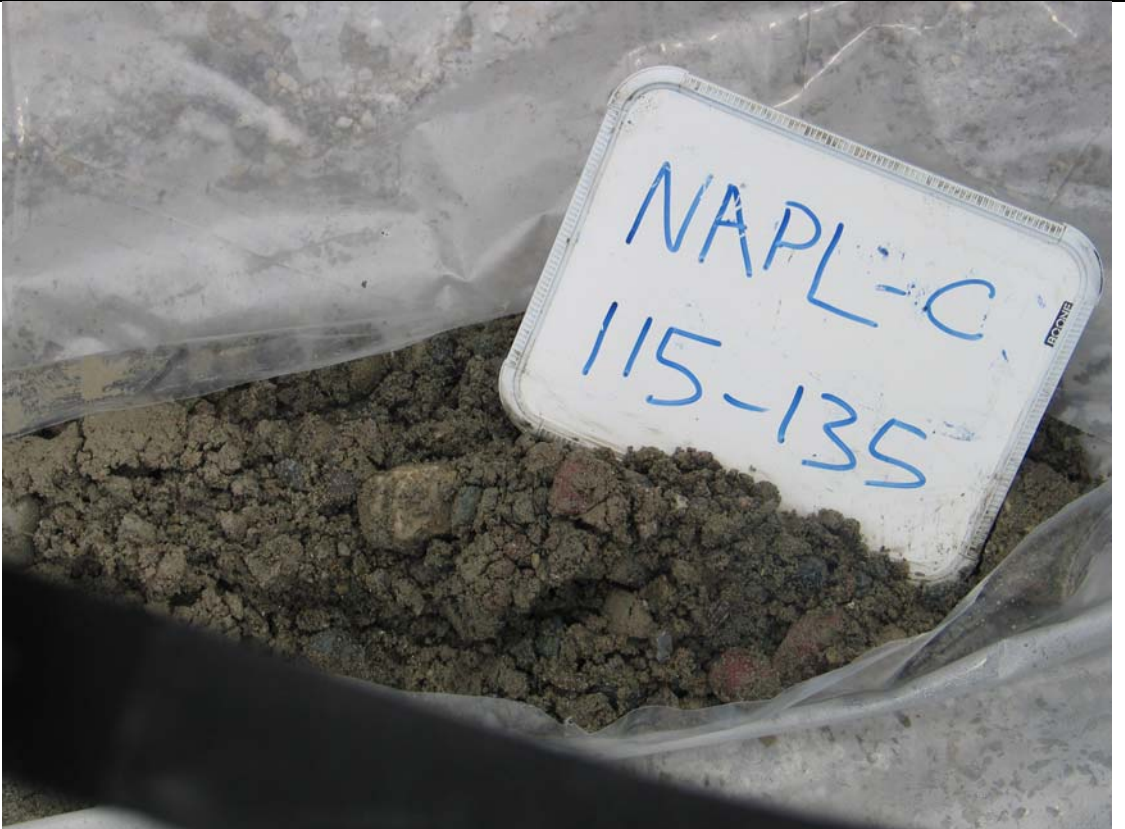
Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 21	Date: 5/8/06	 A photograph showing a sample of dark, moist, clumpy soil contained within a clear plastic bag. A white rectangular label with blue handwritten text is placed on top of the soil. The label reads "NAPL-C" on the top line and "115-135" on the bottom line. The background is a light-colored, possibly concrete, surface.	
Description: NAPL-C (115-135')			

Photo No. 22	Date: 5/8/06	 A photograph showing a sample of dark, moist, clumpy soil contained within a clear plastic bag. A white rectangular label with blue handwritten text is placed on top of the soil. The label reads "NAPL-C" on the top line and "135-140" on the bottom line. The background is a light-colored, possibly concrete, surface. A portion of a dark shoe is visible in the upper left corner of the frame.
Description: NAPL-C (135-140')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 23	Date: 5/8/06		
Description: NAPL-C (135-140')			

Photo No. 24	Date: 5/8/06
Description: Mixing grout at NAPL-C.	

A photograph of a construction site. Three workers wearing white protective suits, orange hard hats, and blue gloves are standing on a platform of a drilling rig. The rig is labeled "GP24-300RS" and "BOART LONGYEAR". A large red lattice structure is visible in the background. An orange traffic cone is in the foreground. The ground is covered with gravel and a white plastic sheet.


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 25	Date: 5/8/06		
Description: Cleaning up at NAPL-C.			

Photo No. 26	Date: 5/8/06
Description: Cleaning up at NAPL-C.	

A photograph showing a worker in a light blue protective suit and orange hard hat standing on a gravel surface next to a large black metal drum. The worker is looking down at the drum. In the background, there is a large industrial structure with a red lattice tower and a black trailer labeled "BOART LONGYEAR". The ground is gravel, and there are orange traffic cones and a red hose in the foreground. The trailer has a logo and the text "BOART LONGYEAR" on its side. The industrial structure has a red lattice tower and various pipes and equipment. The sky is blue with some clouds.



PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561683

Photo No.

1


Date:

7/26/06

Description:

Sonic-5
Bailer coated in
D-NAPL.



Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561683
Photo No. 2	Date: 7/27/06		
Description: Sonic-5 Bailer coated in D-NAPL.			


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 1	Date: 5/05/05		
Description: SA-Q-3 (0-3')			

Photo No. 2	Date: 5/05/05	
Description: SA-Q-3 (3-6')		


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 3	Date: 5/05/05		
Description: SA-Q-3 (12-13') NAPL present			

Photo No. 4	Date: 5/05/05	
Description: SA-Q-3 (13-16')		


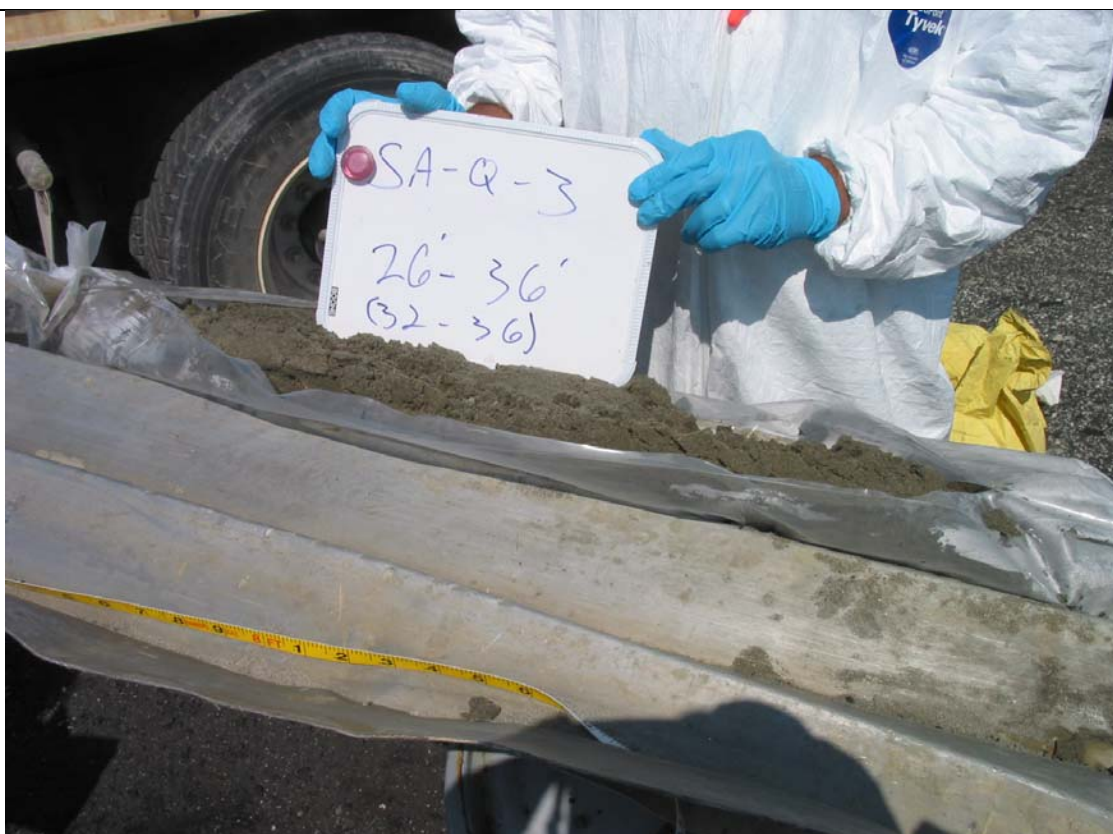
Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 5	Date: 5/05/05		
Description: SA-Q-3 (17-22')			

Photo No. 6	Date: 5/05/05
Description: SA-Q-3 (26-36')	

A photograph showing a person in a white Tyvek protective suit and blue nitrile gloves holding a white evidence marker. The marker has handwritten text: "SA-Q-3", "26-36'", and "(32-36)". The marker is placed on a pile of dark, moist soil inside a large, weathered metal container. A yellow measuring tape is stretched along the side of the container. In the background, a black tire is visible. To the right, a yellow plastic bag lies on the ground. The scene appears to be an outdoor investigation site.


Client Name: Sauget Area 2 Sites Group		Site Location: Sauget, Illinois	Project No. 21561510
Photo No. 7	Date: 5/05/05		
Description: SA-Q-3 (36-46')			

Photo No. 8	Date: 5/05/05	
Description: SA-Q-3 (46-50')		



PHOTOGRAPHIC LOG

Client Name:

Sauget Area 2 Sites Group

Site Location:

Sauget, Illinois

Project No.

21561510

Photo No.

9

Date:

5/05/05

Description:

SA-Q-3

After well installation




Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 7/26/02		
Description: Waste-Q-1 (0-7')			

Photo No. 2	Date: 7/26/02	
Description: Waste-Q-1 (7-17')		

Client Name:

Sauget Area 2 Group

Site Location:

Sauget, Illinois

Project No.

21560888

Photo No.

3

Date:

7/26/02

Description:

Waste-Q-1 (7-17')





Attachment 1

Photo Log Site S

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 8/14/02		
Description: Anomaly Trench-S-1 Before			
Direction Photo Taken: North			

Photo No. 2	Date: 8/14/02	
Description: Anomaly Trench-S-1 Before		
Direction Photo Taken: North		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 3	Date: 8/14/02		
Description: Anomaly Trench-S-1			

Photo No. 4	Date: 8/14/02	
Description: Anomaly Trench-S-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 5	Date: 8/14/02		
Description: Anomaly Trench-S-1			

Photo No. 6	Date: 8/14/02	
Description: Anomaly Trench-S-1		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 7	Date: 8/14/02		
Description: Anomaly Trench-S-1			

Photo No. 8	Date: 8/14/02	
Description: Anomaly Trench-S-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 9	Date: 8/14/02		
Description: Anomaly Trench-S-1			

Photo No. 10	Date: 8/14/02	
Description: Anomaly Trench-S-1		


Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 11	Date: 8/14/02		
Description: Anomaly Trench-S-1			

Photo No. 12	Date: 8/14/02	
Description: AT-S-1 After		
Direction Photo Taken: East		

Photo No. 13	Date: 8/14/02	
Description: Anomaly Trench-S-1 After		
Direction Photo Taken: East		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 1	Date: 6/14/02		
Description: Boundary Trench-S-2 Before			
Direction Photo Taken: South			

Photo No. 2	Date: 6/14/02	
Description: Boundary Trench-S-2		



Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 3	Date: 6/14/02		
Description: Boundary Trench-S-2			

Photo No. 4	Date: 6/14/02	
Description: Boundary Trench-S-2		

Client Name: Sauget Area 2 Group		Site Location: Sauget, Illinois	Project No. 21560888
Photo No. 5	Date: 6/14/02		
Description: Boundary Trench-S-2 After			
Direction Photo Taken: South			



Attachment 2

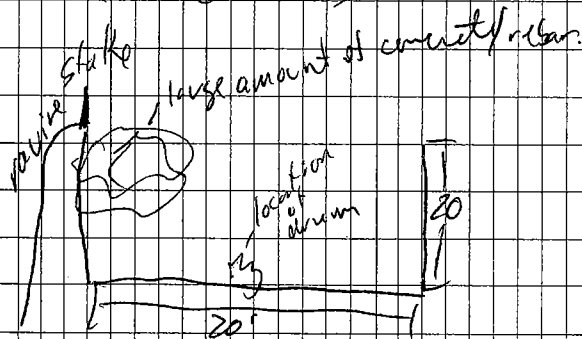
Field Notes Site P

100 JMH
8-14-02

END 100
8-14-02

- 0700 Arrived on-site, Steve lead site safety meeting.
- 0720 Mob to Site 80 P to find trench locations w/ Steve, GMA loading backhoe to mob to Site P.
- 0750 Calibrate equipment
PID - 0 - 100-102
CAM - placed
GMA - H₂S 50 CO-0 LEL-0 O₂-20.9
H₂S-25 CO-50 LEL-50 O₂-20.9
- 0810 EMA having trouble w/ low bag & offloading backhoe. Waiting on new truck.
- 0910 New truck arrives.
- 0940 backhoe unloaded @ Site P, mobbing to location.
- 0945 Setting up exclusion zone @ AT-P-1.
- 0955 Began trenching AT-P-1
0-4' black cinders & large amount of rebar & concrete
↳ Cinders & concrete, rubble
At ~ 20' deep, encountered rusted drum, as soon as George placed it on

stockpile, clear liquid began leaking (possibly oil) out of rusted areas - odor present - nothing on PID or CAM detected for ~ 30 sec. Drum found mid trench (lengthwise) ~ 20' deep surrounded by light brown clay rather than black cinders.



- 1010 Discussed drum w/ John R & John S, both comfortable. Anomaly was found in concrete & rebar at top 4' of trench & drum @ ~ 20'. Began backfilling.
- 1035 Finished backfilling.
- 1045 Began loading backhoe on low bag for transport to Site S.
- 1110 Mobbing to Site S.

89

5-25-05

0640 Arrived on-site, loading equipment

Calibrating equipment

PID 0-0.2 com 1 | 0
100-101 1 | 20.9

Weather - 70.9, Sunny 54 | 26

PPE - Level 4 Mod 1 & 2 51 | 20.5

Personnel - Bit, Spins, K Owens - CRS

EMT - Andy Cameron, Bud Hicks, Alvin, Leo

City Mill - Claire Morris

0700 H+ Meeting.

0730 Mobbing to Site P.

0740 Setting up AT-P-4, setting exclusion zone on AT-P-4 Photo 49 - AT-P-4 before

0755 Began trenching AT-P-4 - trench

runs N/S - began trenching 20'

N of stalked location

In 1st 10' of N 20' section, encountered

4 drum lids

Photo 50 - Drum lid

51 - 3-5 gal. metal pail

Encountered another drum lid

0810 Preparing to collect subsurface sample -

(gross contamination sample) from ~5'

S of N edge of trench & from ~ depth of

BT

5-25-05

90

~4' by 3'

0835 Collected AT-P-4-SB - 4' from bucket

for VOCs, SVOCs, herbicides, metals, ammonia,

PCBs, pesticides, & TCLP analysis, Dioxin

thick brown liquid dripping from

bucket - collected in pool. Headspace - 46 ppm

0850 Collected AT-P-4 - NAPL - was able

to collect ~ 2/3 of 1 NORA vial - no

preservative. Analyzed chemical for 8/1/05

Photo 52 - Purple material SB

53 - Pool of possible NAPL

54 - List of chemicals

55 - Monsanto site report

56 - "Sodium acetate"

57 - Drum Lid

0920 at beginning of trench, depth of 6'

find a newspaper with 4/22/83 date

also find Monsanto & Odebrecht

jobs - its analysis, near miss and

investigation - 83.

Photo 58 - Odebrecht investigation report

59 - Monsanto - job results analysis

0925 Encountered plastic drum lid

Photo 60 - Spoils pile

BT

(93)

5-25-05

1125 1/2 of drum of white solid material
inside - PID spike - 220 ppm

CO-1300 m

BT ~~Ascending to level (due to strong odor)~~

BZ PID - below 3 still

Photo # 75 - Drum of white mat

76 - piece of drum

1135 Liquid slowing into trench from ~
8' bgs.

1145 AT ~40' in length, ~21' in depth

Photo 77 - Blue metal drum w/ tubing + plastic

78 - Brown resin beads, in drum

Waste - 0-17

1200 Lunch

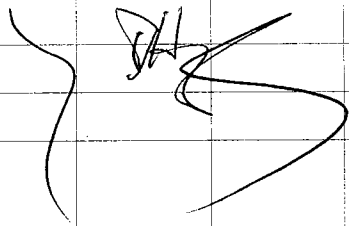
1300 Began backfilling

1520 Finished backfilling - a slight mound
present. - Photo # 79

Deconned pump.

1600 Back @ trailer, unloading equipment

1630 Left site



BT

5-26-05

(94)

0640 Arrived on site, loaded equipment -
Calibrated equipment

PID 0-8

CCM

0/0

WCO-0

100-104

0 20.9

Ultram 0-0

49 24

PID 100-100

49 20.9/100

0700 H+S meeting

0735 Mobbing to next location - APP-2

PRE - Modified V

Weather - 60's, Overcast

Personnel - B. Adams, R. Owings - URS

EMA - Andy Cameron, B. Hicks, Alvin, Leo

CH2M/Hill - C. Morris

URS Field Audit - C. Johnson, A. Turnell

0745 ATurnell & C. Johnson on-site for field audit

Setting up exclusions zone @ APP-2

APP-2 - runs east/west, staked location is
center of trench.

0805 Began trenching @ Ward - 20' W of stake

Photo # 86 - Piece of metal 55 gal drum (fiber)

PID - 30 ppm

Encountered fiber drum - 28'

Encountered - Monsanto shop drawing

AT ~10' @ W end of trench, bright

BT

(91)

5-25-05

- 0932 Encountered crushed drum
Photo # 61 - crushed drum
PID - 5.7 ppm
Waste - Black chunks of industrial waste - drum lids, computer relay, RR ties, trash - Very strong odor - PID in B7 - below 3 ppm
Photo # 62 Piece of metal w/ black staining
- 0940 Encountered 3 crushed drums.
Photo # 63 - Crushed drum
1 of drums contained oily black soil + what appears to be some sort of salt (with softening salt)
Photo # 64 - Salt-like material in drum.
- 0946 Another crushed drum
Photo # 65 - crushed drum w/ green + tan material inside
PID reading - 1.5 ppm
Photo # 66 - 0 - 172'
- 0955 Encountered most of drum, crushed, black staining, possible ball bearing inside -
- yellow fiberglass cylinder w/ NAPL
Photo # 67 - NAPL on fiberglass
68 - yellow fiberglass container

BH

5-25-05

(92)

- Photo 69 - Crushed drum
1070 1st 20' section of trench (N) →
PID - 23.5 21.5'
Waste - 0 - 17' At + 17' sandy clay
Extending trench south for full 40' - will be able to better see if we are completely out of waste
Photo # 70 - Red waste trickling in from waste/clay interface
- 1044 Encountered crushed metal drum
Photo # 71 - Crushed drum
" 72 - Oil container
- 1050 Crushed drum - PID reading - 5.5 ppm
Photo # 73 - Crushed drum
Encountered dot matrix computer
printout - Computer programming - 464K file names. 1983
- 1100 Encountered slightly crushed drum, PID - 5 ppm
Photo # 74 - Drum.
Metal drums with BH all 4/8 0 - 25' bags.
Newspaper - May 10, 83
1110 Drum remnant, box of screws & Monsanto label

BH

(99)

5-26-05

Finished trenching.

Photo-109-TD, total length.

1230 Lunch

1330 Began backfilling.

1500 Preparing to collect surface sample C

AT-P-4 - Will collect adjacent to area

AT-P-4-SS - S' south of N edge.

1515 Collected AT-P-4-SS-0.5'

AT-P-4-SS-0.5'-ms + AT-P-4-SS-0.5'-msd

w/ trawl for vocs, svocs, herbicides, metals, & ammoniac.

Finished backfilling AT-P-2.

M Miller picked up trawl used to sample

AT-P-4-SS-0.5' - will ~~do~~ do =

field blank on trawl, Headspace - 0.2 ppm

(1600) Collected AT-P-4-SS-0.5' - EB for

vocs, svocs, herbicides, metals, ammoniac, PCBs, & Pesticide. Headspace B/H

1555 Preparing to collect surface sample C AT-P-2 =

will collect sample adjacent to location

of SB sample - 30' E of W edge of trench.

1600 Collected AT-P-2-SS-0.5' + AT-P-2-SS-0.5'-D

w/ trawl for vocs, svocs, herbicides, metals, & ammoniac.

B/A

5-26-05

(100)

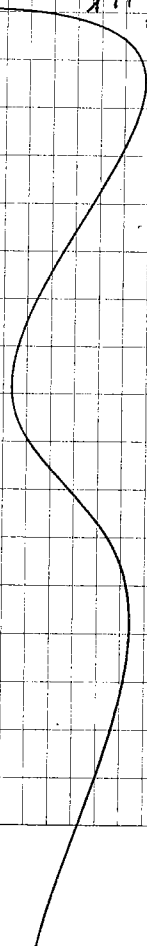
Photo 110 - AT-P-4 - After

Headspace - 0.0 ppm

1630 Moving back to trailer, unloading equipment.

1730 27/26

BH 55



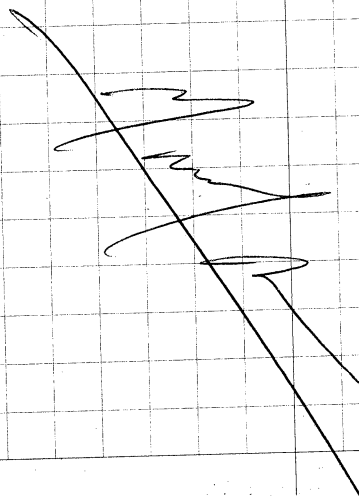
Location Sangre, IL Date 05/26/05
 Project / Client SA 2 SI

0515 Arrive on site (M Miller)
 Work on GINT logs
 0615 Calibrate MINIRAE 2000 and QRAE+
 0700 Safety Meeting led by B Higgins
 0710 Mob Elmer to det Oliver get
 their air tanks
 0740 Mob to site Q South w/ Wendy to
 mark VAA-10
 0800 Mob to Site A to drop off supplies
 for trenching crew
 0815 Mob to Q South to check for
 clearing crew with Wendy and
 check on Prosone pad completion
 0930 Mob to Site R to get truck
 0935 Mob to Site P to get shovel
 for field blank AT-P-2-WS-10-FB
 1015 Sample AT-P-2-WS-10-FB
 1045 Return shovel to trenching crew
 1100 Mob to office at site R
 1130 Work on GINT logs
 1300 Mob to VAA-10
 1325 Return to Site R
 1350 Walmart trip w/ Wendy
 1430 Return to site

PM

Location Sangre, IL Date 05/26/05
 Project / Client SA 2 SI

1440 Finish unloading supplies
 1445 Mob to American Bottoms to det
 Prosone into site S
 1500 Mob to Site P to trade
 Shovels with Brandi
 1530 Mob to Site R to get
 Trenching crew ice
 1535 Return to site P for Tracer
 1540 Return to site R to park
 field Blank
 1600 Sample AT-P-4-SS-0.5-FB
 1645 Staff meeting led by S Shovel
 regarding Field Audit
 1700 Leave site



Location Sauget, ILDate 5-26-05Project / Client SA-2

- 0605 Arrive on site for the day.
- 0700 Safety meeting
- 0710 Wait for Oilind to show up to pick up the airline tanks they dropped off the other day.
- 0720 Oilind arrives. Lead Oilind to AA-Clay-2 to pick up tanks.
- 0740 Head to Q-South to mark UAA-10 off set from the property E of the levee to the W side of the levee, staying as close to the levee as possible (Andrea is making calls to find out how close we can get).
- 0755 UAA-10 marked ~410 Ft W of its original planned location.
- 0800 Take supplies to Kurt & Brandi at AT-P-2
- 0815 Head back to Q-South to check on clearing crew (supposed to be brush hogging areas cleared yesterday).
- 0830 Clearing not at Q-South yet. Bobcat still dressing up the trench location on the barge ramp in Q-Central.

Location Sauget, ILDate 5-26-05Project / Client SA-2

- 0930 Clearing crew arrives at Q-South with brush hog to finish clearing new trench locations around AT-Q-35 and AT-Q-33.
- 1100 Clearing crew finished in Q-South. They are heading back to the trench on the barge ramp to see if more rock arrived for them to finish dressing it up.
- 1105 Check on Justin and Brian and the profiling crew at UAA-10.
- 1135 Back at trailer.
- 1200 LUNCH
- 1215 Help Andrea around trailer/pole barn.
- 1330 Run errands for Andrea.
- 1440 Return to trailer/pole barn and unload.
- 1445 Talk to Jack & Kevin. Send them home for the day.
- 1450 Head to American Bottoms to get the gate unlocked for Adam (Prosonic) so they can finish SA-S-1.
- 1500 meet Brandi & Kurt at AT-P-4 and wait for them to finish gathering a surface sample.

Location Sauget, IL Date 5-26-05
 Project / Client SA-2

- 1545 Head back to pole barn to perform
 a ~~fit~~ field blank sampling on the
 trowel used by Brandi and Kurt.
 1625 Finished performing field blank
 sampling on the trowel used for
 the surface sample at AT-P-4
 1640 Meeting about the results of the
 field audit performed today on-site.
 1700 Leave site for the day.

WJS

WJS

Location Sauget, IL Date 5-27-05
 Project / Client SA-2

- 0600 Arrive on site for the day.
 0710 Safety meeting
 0715 Small URS meeting in trailer ~~with~~
 regarding Andrea's and Brian's
 absence today due to their mom's
 death, and how we are going to
 cover the day-to-day stuff.
 0725 Wait for Walter (STL) to come to pick
 up sample coolers.
 0730 Walter arrives to sign the COCs and
 pick up the sample coolers from yesterday.
 0755 Copies of COCs faxed to Craig Johnson
 in the URS - Omaha office.
 0800 FedEx arrived for drop off/pickup. Took
 care of labels, etc. to get everyone
 started this morning.
 0820 Head to site O with clearing crew
 to clear Sol-O-4.
 0835 Head SA to SA-Q-5 with Adam (Prosonic)
 because the well pipe ~~at~~ was observed
 to be broken/bent at the ground
 surface. (observed by Adam)
 0855 Observation of SA-Q-5 with a water level
 indicator showed the well depth to be

WJS

(109)

6-1-05

Trashy fires

Photo #41 - 0-4' by

At ~13-14' by, encountered light grey sand. - Photo 42

Photo #43 - grey sand.

Photo #44 - "

TD - 8' bys - No drums, drum remnants

Total length @ depth - 6-7' bys

Total length @ surface - ~15' bys

1055 Finished trench, began backfilling

1145 Ind.

1230 Photo #45 - AT-P-4 - Dark green material

46 - AT-P-4 - "

Setting up on TT-Q-33-SE 1

1345 Began trenching TT-Q-33-SE 1 -

50' from both AT-Q-33 step-ats -

trench runs @ SE angle.

Photo #47 - TT-Q-33-SE 1

At ~0.5' bys, encountered brown silt -

municipal waste - plastic, wood, cans

Photo #49 - Spoke pile

Waste - ~0.5-12' bys, at ~12' bys - brown

silt w/ some waste

At ~78' bys, grey sand

BH

6-1-05

(110)

Photo #50 - TD, light grey sand.

1415 TD - 20' by - into ~2' by grey sand.

Total length @ depth - ~8' by

" " @ surface - ~15' bys

~0.5-12' bys - brown silt, waste

At ~12-18' bys - brown silt, little waste.

At ~18' - grey sand

Finished trench, began backfilling.

1440 B. Higgins & S. Shuff to Central Q

to look @ tomorrow's trenching

Locations - AT-Q-29, AT-Q-30

Spoke w/ Dan J. Eagle Marine -

gon to move crane - OK if

we trench @ AT-Q-29 tomorrow

1450 Finished backfilling trench.

1510 H4 trailer, unloading equipment,

discussing tomorrow's plan.

1600 Left site

B. Higgins

BH

Location Sargent, 2L

Date

06/02/05

Project / Client

SA 2 SE1020 Stop at ~~WBK~~ to get key for Lot F

1035 Get key from B Hiller

Mob to Lot F

1050 Locate ~~WBK~~ mpm GM-31 A, B, & C
and GM-59. GM-31 wells have
combo lock with code 1944GM-59 may be in back corner by
drum on with 31 cluster. We think
it is the corner well. Lock is rusted1055 Locate GM-8. Lock appears rusted.
GM-31 A, B, & C, GM-59, and GM-8
are all in the Drum containment lot
at Lot F

1100 Mob to Lot F

1110 Locate GM-18 A & B: No locks
Locate GM-58 (maybe) to help confirm
GM-59 location

1114 Locate GM-7: 1944 lock

1116 Locate MW-7B & C. 7B has a 1944
lock. 7C has no lock. Warrants present
Springed casing1119 Locate GM-5 and MW 5B and C
Master locks on all 3. No key1123 Locate MW-B and C:
mpmLocation Sargent, 2L

Date

06/02/05

Project / Client

SA 2 SEMW 3B & C have ~~MPM~~ Master locks

No key at present

1125 Locate GM-3. No lock, but

it has a monitoring box

1128 Locate GM-4, A, B & C: 1944 locks
on all 3 wells1131 Locate GM-17 A, B, & C: 1944 locks
on all 3 wells

1133 Locate TRA 3-P&B: No locks

1136 Locate GM 6A & B. 6A has no
lock. GM 6B has a 1944 lock

1139 Locate Piece-G: No lock

1145 Leave Lot F

1146 Locate GM-2: No lock, but it
has a monitoring box

1148 Locate drum for GM-33

1155 Drop off Lot F key

1200 Stop at AT-P-2 to check

Dirt work. PID readings 0.0 ppm

1205 Stop at AT-P-4 to check dirt

work. PID readings 0.3 in SW
corner, otherwise 0.0 ppm.1210 Check in with S Shott at
Trailer

mpm

Location Sauget, IL Date 6-2-05
 Project / Client SA-2

- 0835 Head to trailer to talk to Steve about what we are supposed to be doing. We are supposed to locate the wells previously installed and determine access.
- 0855 Head out again with Mike Miller. See Mike's book for location and access notes.
- 1200 Check on AT-P-2, which was dressed up with soil brought from off site. Some debris still visible. PID readings = 0.0
- 1205 Check on AT-P-4, which was dressed up with soil brought from offsite. Little to no debris visible. PID readings = 0.3 or less. 72°, overcast, looks like it wants to rain.
- 1210 Back to trailer to talk to Steve.
- 1220 Lunch
- 1245 Out to locate previous wells. See Mike Miller's field book for notes.
- 1500 Back at trailer/pole barn to talk to Steve. Miscellaneous work.
- 1600 Leave site for the day.

WJ

Location Sauget, IL Date 6-3-05
 Project / Client SA-2

- 0605 Arrive on site. Timesheet and miscellaneous duties around trailer/pole barn.
- 0705 Safety meeting
- 0710 Load up for the day. Wait for Walter (STL) to pick up sample coolers from yesterday. Miscellaneous duties around trailer/pole barn.
- 0730 Walter arrives and picks up sample coolers from yesterday and signs COCs.
- 0735 Fax COCs to Craig Johnson (URS-Omaha). Miscellaneous paper ~~stuffing~~ filing in trailer.
- 0745 Begin locating previous wells again. See Mike Miller's (URS) fieldbook for location and access notes.
- 0930 Check on clearing crew dressing up trenches in Q-south with additional dirt while locating previous wells. Trenches so far (AT-Q-35) look good — the exposed debris is covered.
- 1230 Lunch and various office duties

WJ

88 25 July 2002

7:00 Arrive on site $\approx 70^{\circ}\text{F}$
Clear, humid. Forecast high
is 95°F

7:05 Steve Shroff conduct daily
hazardous safety meeting

7:10 Calibrate and monitoring
instruments (See daily calibration
logs)

7:30 Move to location of LEACH-P-1

7:45 Setting up at LEACH-P-1

7:55 Start Drilling LEACH-P-1

8:30 Encounter native material (silty
clay) at 22' bgs. Call

Steve Shroff to inform him.
Steve checks out Brandt (Higgins and
Oscar (other Pro Sonic driller))
as to why her boring log
had was to 30' bgs.

Steve calls back with explanation.
EKF, John Reagan & Jeff of
Citim Hill are present.

Apparently, Oscar re-sampled
an interval which had
already been sampled, thus
giving the impression of

25-July 2002

89

Boring deeper than the actual depth.
Decide to set the well at
22' bgs with 1' cushion of
sand beneath the well screen.
remainder of the hole filled
with bentonite chips.

Chips will be allowed to hydrate
for a minimum of 30' prior to
installing the well.

8:45 to 9:15 Waiting for bentonite
chips placed from 23' to 30' bgs
to hydrate.

9:16 Install PVC screen and
riser.

9:17 Start installing filter sand
pack around the screen.

9:30 Installing Bentonite chips above
the sand pack.

9:40 Finish installing well cleanup
screen and prepare to de-mold
pack to trailer for clean.

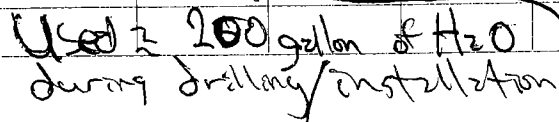
10:00 Pro Sonic de-canning rig and tub.

10:45 Setting up at location of
LEACH-O-1

10:50 Start drilling LEACH-O-1

25 July 2002

M.T.S



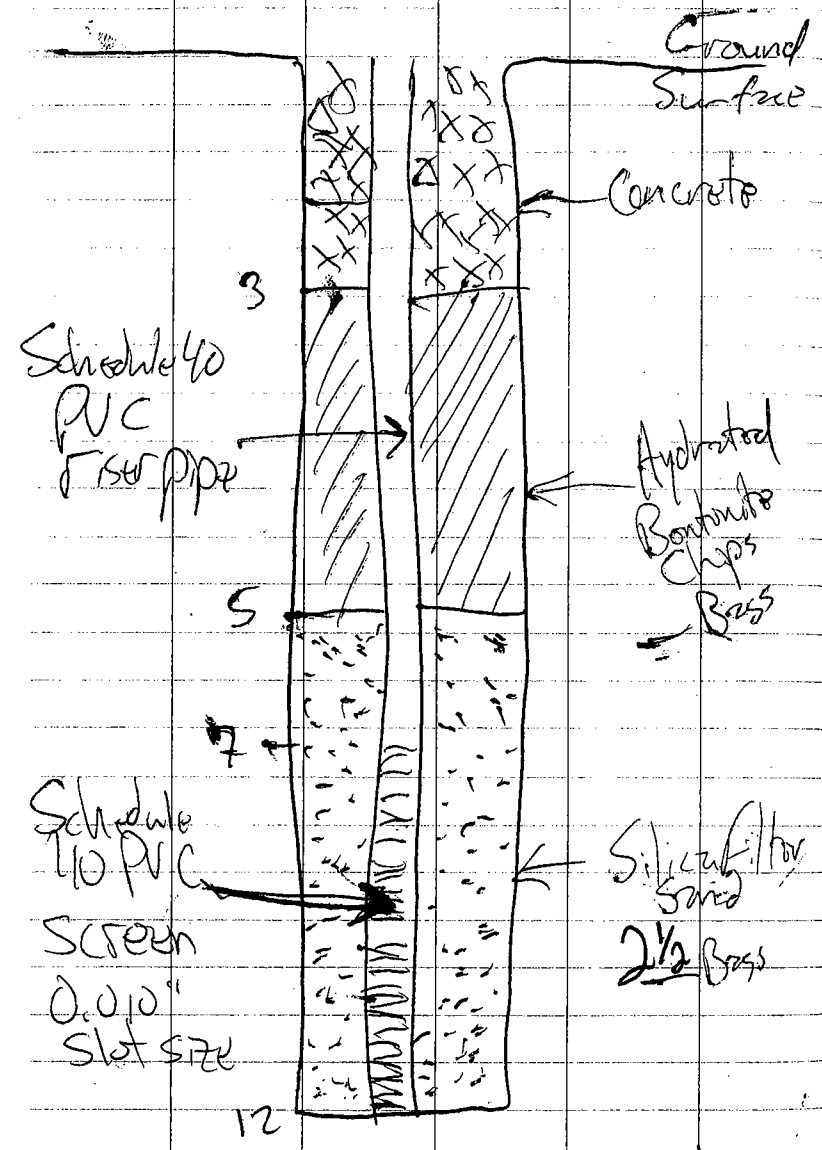
25 July 2002

Used \approx 75 gallon H₂O
during drilling installation

(102)

26 July 2002

Well construction LEACH-Q-1 (N.T.S)



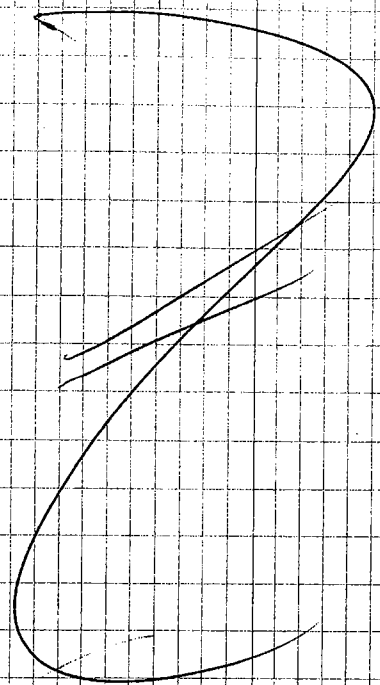
Used 750 gallons of water

LOCKED Q-2
Q-1
Q-3
P-1
Q-1

(103)

26 July 2002

1650 Lock LEACHITE area
LEACH Q-1, Q-2, Q-3, P-1 and
Q-1. Did not lock S-1 and
R-1 however, the wells are
located within a fenced
secure area.
17:30 Leave site for the day



TE. 8.9
7.26.02

8-19-02 (D)
Bm4

Projects (continued)

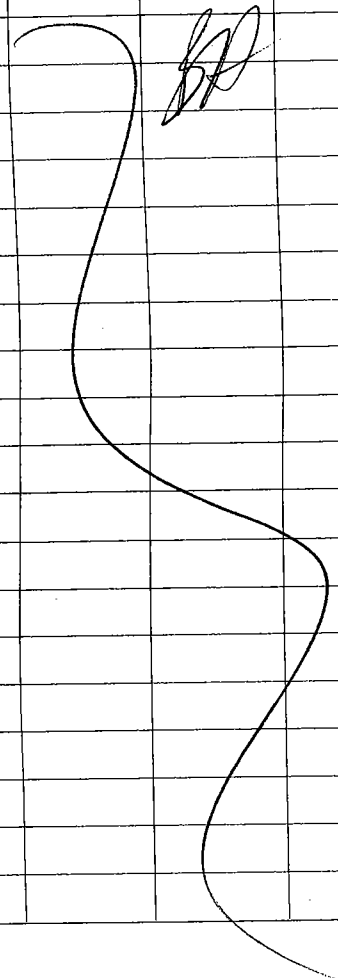
0700	Arrive on site, Steve held site safety meeting. 80s Overcast.		
0705	Rosini calibrated equipment -		
	PID - 0.4	200 - 110	
	RAM - y/ned		
	CGM - H ₂ S CO ₂	660 02-207	
	A ₂ S-75 CO ₂	661-50	
0730	Began taking well caps off of all leachate + bedrock monitoring wells.		
0700	Finished opening all wells		
0710	Began taking water level readings + interface probe.		
0720	At BDRK-P-1.		
	DTW	TD	
	BDRK-P-1	15.86	159.86 Soft
0740	Leach-P-1	Dry	25.50 off-on present
0751	Leach-P-1	Product - 15.08	17.35 hard, adov
0800	Leach-P-1 ^{BDRK-P-1} Product - 15.08	15.09	10.38 hard, adov
	Do lock		
0812	BDRK-O-1	Product 18.50	18.57 154.11 Soft, adov
0825	BDRK-S-1	Product 21.56	21.57 165.72 Soft
0850	Leach-Q-3	Dry	11.79
0955	BDRK-Q-2	Product 8.48	10.485 145.41 Soft
1023	Leach-Q-1	Product 11.15	11.16 127.73 adov, hard
1030	BDRK-Q-1	26.25	36.26 161.85 Soft

61 PM 18
9-20-02

0700 Arrived on-site, Raining.
continued clearing trailer

0930 Collected last dioxin / L-
amber for leach - O-1

0945 continued demoing.



PM 18
9-23-02

62

0930 Arrived on-site, BMAH, KH.

0940 Began gauging all wells / Pie 2

1230 Finished opening all wells.

1350 Began gauging all wells / Pie 2

	PTW	TD	24
BDRK-L-1	31.31	166.30	Soft
Leach-P-1	24.82	25.12	hard
Pie 2-3 s	27.91	38.47	hard
m	27.89	78.34	hard
d	27.76	114.97	soft
Pie 2-2 s	26.26	26.45	hard
m	30.31	77.51	Soft
d	30.29	137.00	
Pie 2-1 s	dry	23.12	soft
m	31.26	79.51	soft
d	31.37	128.75	soft
BDRK-P-1	139.23	161.57	soft
Leach-D-1	17.02	17.06	hard
Leach-S-1	9.51	9.91	hard
Pie 2-S s	16.51	24.90	S
m	16.77	69.58	soft
d	17.06	108.52	soft
Pie 2-8 s	9.89	27.11	S
m	10.71	68.85	h
d	10.61	110.85	S

(65)

1-22-03

	PID	DTW	
Leach-P-1	0.0	25.18	bottom (no water)
BDRK-P-1	0.3	53.44	
BDRK-O-1	0.0	25.06	
Leach-O-1	0.0	17.11	bottom (no water)
Q PIEZ-4D	0.4	42.39	
PIEZ-4M	0.7	42.91	
Q PIEZ-4S	0.0	42.90	
BDRK-Q-1	0.8	43.58	
LEACH-Q-1 inaccessible - pallets on top			
1700 Quit for day			

THURSDAY 1-23-03

(66)

0720 Arrive at Site
 Personnel: K. Hoskins and M. Swanson of URS
 Weather: 20°F, wind chill -10 to -20°F
 Sunny
 Level of PIPE: Modified level D except as noted.
 Equipment: PID & Interface probe
 PID checked calibration:
 Fresh air 0 ppm
 Isobut 101 ppm
 7:35 continue from yesterday

	PID	DTW
LEACH-R-1	0.0	21.10
LEACH-S-1	403	9.55
PIEZ-5S	0.0	22.02
PIEZ-5M	0.0	21.95
PIEZ-5D	0.0	22.30
BDRK-Q-2	50.6	25.09
LEACH-Q-3	0.0	10.90
PIEZ-9S	0.0	10.71
PIEZ-9M	0.0	10.77
PIEZ-9D	0.0	10.64

Probes

LH

97 4/21/03
11:20-1200 lunch

WELL/PIEZ NO.	PID READING	COMMENTS
PIEZ-BS	0 ppm	
PIEZ-3M	0 ppm	
PIEZ-3D	0 ppm	
BEACH-P-1	0 ppm	
BDRK-S-1	0 ppm	
BLEACH-S-1	NA	Cannot get open because the lock is broken & will not unlock
PIEZ-5S	0 ppm	
PIEZ-5M	0 ppm	
PIEZ-5D	0 ppm	
LEACH-O-1	43.8 ppm	
BDRK-O-1	0 ppm	
BDRK-R-1	0 ppm	
LEACH-R-1	3422	

1400 Begin moving drums to
bedrock monitoring well
locations. Need to locate good
drums first.

1520 Finish moving drums. for
Talk to Metro East Sanitary
District - they are closing the
locks to the levee. He said to

4-21-03
MF

4/21/03 98

1520 (Cont) call his boss Jerry Duff of
MESD @ (618) 274-4800.
1525 Return to Pole Barn. Close up IDW
pad. Talk to Rock Hill Mechanical
who is on site. They will lock
up gate when they leave since
they will be here after we leave.
1535 All off site for day. K. Hoskins
returns to office to get supplies
& M. Felton goes to store for
supplies.

Reling
4-21-03

(103) 4/22/03

Well No.	Water Level	Total Depth	Comments
PIEZ-9S	11.38	Not obtained	
PIEZ-9M	11.45	Not obtained	
PIEZ-9D	11.32	Not obtained	
PIEZ-7S	DRY	27.69	
PIEZ-7M	32.91	Not obtained	
PIEZ-7D	32.62	Not obtained	
BDRK-Q-2	23.78	145.0	Soft bottom
LEACH-Q-3	10.83	11.32	Hard Bottom

1605 Return key to Solutia. Return to Pole Barn.

1630 Leave site for evening

(104)

WEDNESDAY 4/23/03

0700 K. HOSKINS ON SITE
CALIBRATE PID.

0705 M. FELTON ON SITE H+S MEETING.
PERSONNEL: M. FELTON - URS

K. HOSKINS - URS

WEATHER: SUNNY, LT. WIND, 50°F, ^{VERY} HUMID
LEVEL OF PRE: MODIFIED LEVEL D.

0715 PACK UP VEHICLE

0730 MOBILIZE TO SITE P TO CONTINUE
WATER LEVELS FOR LEACHATE WELLS.

WELL NO.	WATER LEVEL (FT BTOC)	TOTAL DEPTH (FT BTOC)	COMMENTS
LEACH-P-1	24.84	25.13	HARD BOTTOM
LEACH-S-1	9.49	9.91	Hard bottom
LEACH-O-1	17.02	17.06	Hard bottom
LEACH-Q-1	10.03	11.67	Hard bottom
LEACH-Q-2	DRY	15.80	5 p.m. coming out of well HARD BOTTOM

THIS WELL IS LOCATED 80 FT SOUTHEAST
(PERPENDICULAR TO WALL IN SOUTHERLY
DIRECTION) OF END OF CONCRETE
RETAINING WALL (CONCRETE BLOCK WALL)
(western side of end of wall)

0900 SWITCH TO LEVEL C TO COLLECT
WATER LEVEL & TOTAL DEPTH FOR
LEACH-R-1.

LEACH-R-1 21.37 25.55

Product
@ 23.74

PID READINGS 50-100pm during readings

MF 4/23/03

143 Monday 6-9-03

0700 BHissins + M Swanson on site. Held site safety meeting
 Personnel - BHissins - URS
 M Swanson - URS

Weather - 60's Sunny
 Level 8 PPE - Modified Level D

0715 Calibrating PID
 0-0 100-100

0730 Began opening all wells + piezometers

Well/Piez No	PID	Comments
BORK-R-1	2.0	No lock
BORK Lead-Q-1	0.0	No lock
Piez-4-S	0.0	
Piez-4-M	0.2	
Piez-4-D	0.3	
BORK-Q-1	0.0	Cut lock off
Piez-1-S	0	
Piez-1-M	0	
Piez-1-D	0	
Piez-2-S	0	
Piez-2-M	0	
Piez-2-D	0	
Piez-3-S	0	
Piez-3-M	0	
Piez-3-D	0	

6-9-03

144

Piez/Well No	PID	Comments
Lead-P-1	11.0	
BORK-P-1	0	
Lead-Q-2	0	needs new lock
Lead-S-1	130	Filled w/ sediment from wasps in protective casing
Piez-5-S	0	
Piez-5-M	0	
Piez-5-D	0	
Lead-Q-1	50	
BORK-Q-1	0	
BORK-S-1	0	
Piez-9-S	0	
Piez-9-M	3.5	
Piez-9-D	0	
Lead-Q-3	54	
BORK-Q-2	0	
Piez-7-S	0	
Piez-7-M	0	
Piez-7-D	0	
Piez-8-S	0	
Piez-8-M	0	
Piez-8-D	0	

1140 Lunch

1220 At solution getting lost F Key

1240 Turning in Key to Solution guard.

(145)

6-9-03

Piez/well No.	P.D.
Piez-6s	0
Piez-6-m	0
Piez-6-D	0
Leach-R-1	XCO
1300 Drove to ponds in Southern Site Q to access water levels for Sed/surface water sampling.	
1330 Began gauging all wells/piez.	
well/Piez. No.	DTW
BDRK-R-1	27.90
BDRK-P-1	124.41
Piez 1-s	Dry
Piez 1-m	26.54
Piez 1-D	26.54
Piez-2-S	26.22
Piez-2-m	26.59
Piez-2-D	26.51
Piez-3-s	25.96
Piez-3-m	25.94
Piez-3-D	25.83
Leach-P-1	24.90
Piez-5-s	15.88
Piez-5-m	15.79
Piez-5-D	15.90

6-9-03

(146)

well/Piez. No.	DTW
Leach-O-1	17.03
BDRK-O-1	17.88
BDRK-S-1	19.25
Piez-4-S	32.13
Piez-4-m	32.16
Piez-4-D	31.84
BDRK-Q-1	32.71
Piez-9-S	8.09
Piez-9-m	8.14
Piez-9-D	8.02
Piez-7-S	22.46
Piez-7-m	28.04
Piez-7-D	27.59
Leach-Q-3	10.86
BDRK-Q-2	17.54
1645 Mobbing back to pole barn	
1700 Unpack equipment, log & site for day	

Weather 90's/sunny
PPE Modified 6-6-05

0640 Arrived on-site, loading equipment.

Calibrated instruments

PID 0-0

Multirae

0 | 0

100-100

0 | 20.9

xxx-0

Uthman 0-0

51 | 24

100-100

50 | 20.9

xxx-9b

0700 H.S. meeting

0720 Waiting on lawboy to move excavator to Site P

0800 Lawboy on-site, moving both excavators.

0840 S. Struff gave us OK to start - CH2M Hill is running step-out plan & ladder to EPA, but Clair Morris said she does not think there should be any issues w/ step-out plan.

0900 Began clearing around north step-out - TT-P-2-N1

Photo #9 - TT-P-2-N1 - Before

0920 PID not working properly, recalibrating.

1000 Began trenching TT-P-2-N1 step-out location 50' N of TT-P-2 - beginning @ Stake (50' N) & trenching to the north.

1005 Encountered possible fiber drum, crushed w/ MonSala - Formaldehyde (fume) PID-30 ppm

6-6-05

118

Photo #10 - MonSala fiber drum

" 11 - Fiber drum

0-4' - brown silt w/ construction debris.

A1 ~ 4' - encountered industrial waste, plastic, trash, fiber drums - w/ black cinders.

Photo #12 - Fiber drum w/ lid

1010 Strong odor from trench & spoils pile - BZ @ 1-2 ppm

Photo #13 - Drum lid - metal

" 14 - Piece of Fiber drum w/ white material

" 15 -

" 16 -

1020 Encountered fiber drum w/ white powder - 1/K6

Substance - PID-32 ppm

Encountered MonSala shipping documents

1022 - More pieces of fiber drums

Metal lid to 30' - Photo #17

1025 Pieces of fiber drums, lids

1030 Piece of fiber drum - hose, trash inside

Photo #17 - possible paint cans

18 - Fiber drum filled w/ trash

1032 Metal container - "MEK" - Flammable liquid label - Photo #19

5/11

(119)

6-6-05

Photo 20 - P. 111 fiber drum w/
formaldehyde label.

- More fiber drums - crushed

Photo #21 - Fiber drum w/ fibrous material
inside - "Monsanto" label, "Poison"

- 1 gal metal container w/ "resin" label.

1046 #1 ~15' bgs

Photo #22 - 0 - ~15'

- #3 - 55-gal metal drum lids - P10-32 ppm

Photo #23 - Stack of lids

Photo #24 - Possible 5-10 gal metal drum
P10-40 ppm

- Piece of fiber drum

1100 - Ground soil - reddish yellow soil -

fiber drum w/ yellow on walls - wet

Photo 25 - reddish yellow material

26 - yell or powder material on drum.

1105 Finish - TT - TD - 20.5'

Total length @ depth - ~56' G-8'

Total length @ surface - 20' ~~8~~ 11'

Encounter GWC - 20' bgs.

- we will stop out 50' more but per

S. Shroff

Begin backfilling.

BA

(120)

6-6-05

1145 Lunch

1200 Began storming - lightning, gust.

1310 Storm stopped, melting to
next location.

Photo #27 - TT-P-2-N2

1325 cutting up on TT-P-2-N2 -

50' N; 1st step out - will trend
south from staked location.

1330 Began trenching

Encountered waste @ ~3' bgs -

Black cinders & plastic, wood, cardboard,
fiber drums

Photo 28 - Fiber drum w/ plastic
inside

- Fiber drum, crushed -

Photo 29 - 0 - 5'

Photo 30 - Bag w/ Monsanto Pentachlorophenol

- Fiber drums, bags

Photo 30 - 0 - 8' bgs

1350 Encountered 5-gal metal pail, crushed

P10-70 ppm - & some tan soil inside.

Photo #31 Metal pail

Upgrading to level C - BZ near spoils

pail 73 ppm

BA

(123)

6-7-05

Photo #42 - TT-P-2-S1-O-3

Photo #43 - Piece of metal

0850 AT 26' bgs, 55-gal metal drum, crushed,
most of drum - newspaper stuck to it - 1970s??

Photo #44 - Drum

O-4 - Brown silt & black cinders

AT 4' - Waste - wood, trash, - municipal waste,
drum

Photo #45 - Manganese paperwork

Photo #46 - O - 20' bgs

Photo #47 - O - 40'

0900 Encountered crushed, rusted metal drum - 55 gal -
w/ plastic. Montanase - Sulfonamide formaldehyde

Photo #48 - Crushed drum

WT - 64 lbs, - tare wt - 4 lbs, ~ 15-30 gal

PID - 202 ppm O drum
- Drum lid

Photo #49 - Drum lid

- Piece of fiber drum lid

0907 - 5-gal metal container - w/ shell -
labeled "Shell"

Photo #50 - Metal container

0910 - Bucket w/ white material

Photo #51 - White material

BH

6-7-05

(124)

- Piece of metal - PID - 20.7 ppm

0914 - Fiber drum w/ white powder substance
insidePhoto #52 - Fiber drum w/ white
powder

0917 - Paper bags - "Malic Anhydride"

0919 - Piece of fiber drum

0920 Encountered GWC @ ~18-20' bgs.

Photo #53 - GWC @ ~18-20'

0925 Baggins spoke w/ S Shroff - based
on what we encountered in trench -
is not a clear "no" in our yes/no
approach. Will skip out an additional
50' to North

0940 Began backfilling.

1010 Finished backfilling, clearing next
location to the southTT-P-2-S2-50' south of southern
edge of TT-P-2-S1.Will begin trenching @ this point
going south.

1050 Setting up exclusion zone @

TT-P-2-S2

1040 Began trenching

BH

(125)

6-7-05

- 1045 At ~4' bgs, encounter 2 drum
remnants - 1 greater than 50% -
+ 2 whole drums, 1 - fragment. -
5 pieces later, 2 w/ lig. & leaking out
Photo #54 - whole drum, crushed; black staining
" 55 - " " "
" 56 - Drum remnant
" 57 - "
" 58 = Drum fragment.
PID-10 ppm on 2 pieces,
2 leaking liquid
- 0-3' bgs - Brown silt w/ black cinders.
At ~3' - encounter waste - drums & drum
remnants.

1050 Spoke w/ SS - off - he said to stop tracking
- at this location, step out again, Emily
is discussing the trench / Clair.
Clair ok & step out.

Began backfilling

113 Finish backfilling

1231 Clearing area for next step out -
TT-P-2-S3 - will start 50' south of
southern edge of TT-P-2-S2 - 1 trench
to south.

BH

6-7-05

(126)

- 1245 Setting up exclusion zone @
TT-P-2-S3
Began trenching,
Photo #59 - TT-P-2-S3 - before
- Encounter 45 fiber drum lids.
Photo #60 - 1 lid - Fiber drum
1310 Encounter crushed, crushed 35-gal drum - some
brown silt inside - PID-C ppm
Photo #61 - Crushed drum
1314 - 2 drum remnants - PID-C
Photo #62 - 2 remnants from ~
6-8' bgs.
1318 - Fiber drum w/ purple material. PID-8 ppm
Photo #63 - Fiber drum
- Fiber drum
1322 - Encounter most of 55-gal metal drum -
w/ black staining & some liquid leaking out.
Also ~10 gal metal container w/
purple staining
Photo #64 -
" 65 - leaking liquid
" 66 - metal container w/ purple
staining & solid content
PID-0, 67 drum

Bla

(127)

SB 6-7-05

- 2 gal metal pail PID-0

Photo #67 - metal pail

1333 Crushed drum - black staining, black
hose inside.

Photo #68 - crushed drum

1335 Per SSI, off, fir. sh. lead @
~10' by S - will step out 50' to
south, began backfilling.1345 S. Smith on-site discussing Site Plan
S Shuff - decide to stop stepping - out
+ conclude south of this area is similar
to what we have seen in test trenches.
- will speak to WZM about this
back at trailer.1530 Inter call w/ Clair - will set up call w/
SAJSS + EMTEPA.

1615 Left site

BHS

BH

6-8-05

(128)

0650 Arrived on-site, loading equipment.

Calibrated instruments

PID	0-0	0-0	0-0	0-0	0-0
100-100	100	100	100	100	100
Ultrason	0-0	50	25	49	25
100-100	49	25	49	25	20.9

Ultrason	0-0	50	25	49	25
100-100	49	25	49	25	20.9

0700 H+S meeting.

Sewer - Raining, 80s

PPE - Modified D

Personnel - Bitts, K. Kings - URS

EMA - Andy Cameron, Bud Hicks, Alvin Leo

CH2M, W - Emily, Clair Morris

0710 waiting on lowboy to move excavator
to Q Central - AT-Q-22.

0800 Lowboy on-site moving excavators

0845 Excavators moved, now instruments
on-site, Cal. tracking.

0915 moving to AT-Q-22.

0935 Setting exclusion zone @ AT-Q-22.

Photo #70 - AT-Q-22 Before

0950 Begin trenching AT-Q-22 - trench

runs E/W - starting ~5' S of Staked

location & trending to East

Photo #71 - Off Set.

BH



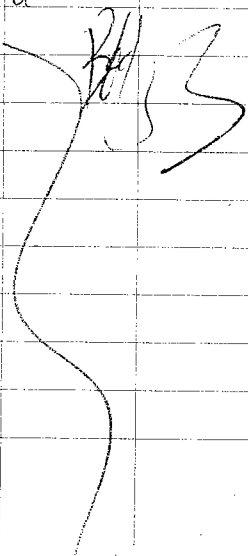
Attachment 2

Field Notes Site Q

(35)

5-5-05

- Check on utility issues in site O.
 1600 Collected AT-Q-28-SS-1.5' for
 wax, wax, herbicides, metals, ammonia,
 PCBs, pesticides, & dioxin (Excavate
 surfaced on ~1.5" of rock).
 Haulspace - 1.5' single - 0 ppm.
 1630 Finishing grade @ AT-Q-28
 w/ bobcat using excavator @
 AT-Q-27 to compact soil -
 still very soft - kept location
 blocked off overnight.
 Photo #25 - Finished grade - AT-Q-28.
 1730 Move trailer to rock cooler,
 unload equipment.
 1810 Shift 2th

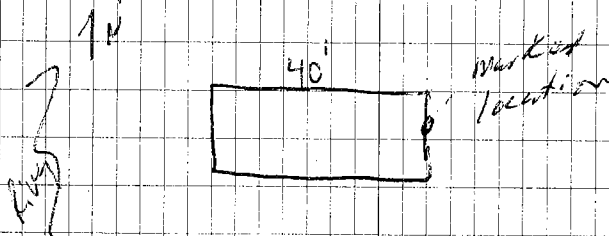


BHT

5-6-05

(36)

- 0640 Arrived on site, packing equipment.
 Weather - 70's, Sunny
 PPE - Muck Boots
 Personnel - Blighs, UKS
 K. Dwyer - UKS
 E. W. Crew
 C. L. M. H. V. Crews, SLT
 0654 Calibrating PID, G.M.
 PID 0-8 G.M. - 0.55 / 0, 25
 100-101 20, 105 / 0, 50
 0740 Moving to next location - AT-Q-29.
 0750 Settling upon AT-Q-29, settling
 up ^{8th} Exclusion zone.
 Photo #11 - AT-Q-29 - Before
 0800 Scrapping on top ^{8th} of gully.
 Trench runs east-west.



Began trench eastern end @ marked location

BHT

(37)

5-6-05

due to large pieces of metal (large
operations).

0826 Began trenching HT-Q-29 at
eastern end.

0-3 - (MS) rock

ft - 3' bgs = black silt w/ construction debris,
brick, concrete

ft - 5' bgs - black silt w/ some grey clay w/
plastic, bottles, pieces of metal.

Photo 2 - plastic

" 3 - Metal pieces

" 4 - ft - 5' bgs

PH " 5 - Drum lid

0840 Collected

0835 Encountered metal drum lid -

0840 Collected waste sample from just below
8th tier where lid was found - @ 8' bgs - ~
10' from eastern end of trench.

Collected HT-Q-29-WS-8' for
TCLs, SVCS, herbicides, metals, ammonia,
phos, - & TCL P analysis.

Continued trenching

Photo 6 - possible refrigerator @ 12-15'

0850 Headspace on 8' sample = 18.7 ppm

RA

5-6-05

(38)

0900 Encountered bottom of drum (PH)

(very bottom plus ~ 2-3" of side)

Did a headspace reading on this

zone (~ 1/5' bgs ~ 10' from
eastern end of trench) - 10 ppm.

Will keep 8' waste sample &
continue trenching.

0910 Photo #7 - ~ 10' bgs

0930 Collected HT-Q-29-SB-6' from ~
8' east of western edge of trench.
Collected sample from 5' depth to be
analyzed for SVCS, herbicides,
metals, ammonia.

Collected HT-Q-29-SB-6' MS/MSD
Continued trenching

0937 Headspace reading of 6' sample - 4.7 ppm

0953 Operator has extended trench in
length so that he can't get any
deeper @ eastern edge - we will
extend trench length on 8-10' west
TD ~ 8' ^{PH} west of eastern edge -
~ 22' - will try to get a few feet
deeper possible

0956 Encountered drum lid or manhole cover

PH

(39)

5-6-05

1/2' from eastern edge of trench
Photo #8 - Man-hole cover or tanker car lid
Not a drum lid

1030 Photo #11 - 1st 20' length of trench
Finish 1st 20' section of trench to
a TD - 21.5', waste 0-16.5'
grey silt - 16.5 - 21.5'

1035 Began backfilling 1st half of trench -
Claris OK w/ TA

1110 Finished backfilling 1st 1/2 of trench.

1120 Lunch

1230 Continued trenching - starting on
2nd ~20' section (western section) of
trench.

03 - LMS rock

At 13' bgs - black silt & construction debris, bricks,
concrete

1315 Encountered drum lid @ ~10' bgs.
Headspace reading ^{SP} 34.6 ppm

1337 Encountered crushed drum w/ possible Napl
inside ^{PH} walls of drum, newspaper - 1971-12-10
Photo #12 - Drum
Photo #13 - "

1341 Preparing to collect sample from area underneath

BH

5-6-05

(40)

Crushed drum - from Wey Wedge

1355 Collected AT-Q-~~28~~^{29 BH}-WS-16 from
bucket from under area of drum -
will discard waste sample from
this morning.

Headspace on soil from drum - 53.5

1404 Encountered a small piece of drum fill w/
w/ dried orange paint.

Photo #14 - Drum w/ dried paint

1409 Encountered another drum lid @
Wend of trench

Photo #15 - Drum lid

Also possible yellow paint in spoils
pile - on excavator bucket

1415 Bottom on top of drum w/ orange paint &
a fibrous material

Photo 16 - Drum w/ paint

17 - "

1430 Another drum, crushed.

Photo #18 - Drum

1445 At ~20' dep at western edge of
trench, cannot go any deeper, silt
in waste.

Talk to Claire - she states we

BH

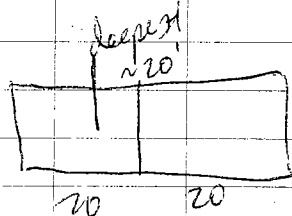
①

5-6-05

need to delineate depth of waste & extend trench.

1500 SSH on site discuss situation. Egle Marine needs to bring a bigger excavator out soon for large action this soon.

AN



- 2nd half of trench, still in waste @ 20'

1500 Egle Marine needs to begin backfilling existing trench. Going to come back to this trench at a later time w/

6999628 a bigger excavator to delineate depth & lateral extent of trench.

2238405 GPS coordinates of center of trench - starting point for future trench →

1600 Egle's headed back to haul in to unload equipment, pack samples. & Owens watching EMT crew finish up backfilling.

1630 Finished backfilling

1700 Left site

BA

Weather Overcast, 70's
PPF-Modified B 5-9-05

②

0640 Arrived on-site, loading equipment, calibrating PID, CGM

PID	0-10	CGM	0-0	54/25
	100-103		0-0	20.4/49

0700 Held flt S meeting

0730 Moving to AT-Q-25

Photo #1 - AT-Q-25 - Before
Setting up exclusion zone.

0800 Began scraping rock + segregating it to 1 side.

0815 Began trenching Frenchmans E/W, started down west 20' of 2 LMS rock

At ~2' bgs - dark silt/clay & concrete, rebar.

Photo #2 - ~4' bgs.

0826 Encountered 1/3 of drum, crushed, filled w/ tan silty clay. PID-12 2 per spoke & skewer - he said to collect soil from around drum, not what is in the drum. Close encircled to level C to collect sample. Photo #3 - Drum

0855 Collected waste sample - AT-Q-25-WS-9' for vocs, SVOCs, herbicides, metals, PCPs,

BA

(109)

6-1-05

Trashy fires

Photo #41 - 0-4' by

At ~13-14' by, encountered light grey sand. - Photo 42

Photo #43 - grey sand.

Photo #44 - "

TD - 8' bys - No drums, drum remnants

Total length @ depth - 6-7' bys

Total length @ surface - ~15' bys

1055 Finished trench, began backfilling

1145 Ind.

1230 Photo #45 - AT-P-4 - Dark green material

46 - AT-P-4 - "

Setting up on TT-Q-33-SE 1

1345 Began trenching TT-Q-33-SE 1 -

50' from both AT-Q-33 step-ats -

trench runs @ SE angle.

Photo #47 - TT-Q-33-SE 1

At ~0.5' bys, encountered brown silt -

municipal waste - plastic, wood, cans

Photo #49 - Spoke pile

Waste - ~0.5-12' bys, at ~12' bys - brown

silt w/ some waste

At ~78' bys, grey sand

BH

6-1-05

(110)

Photo #50 - TD, light grey sand.

1415 TD - 20' by - into ~2' by grey sand.

Total length @ depth - ~8' by

" " @ surface - ~15' bys

~0.5-12' bys - brown silt, waste

At ~12-18' bys - brown silt, little waste.

At ~18' - grey sand

Finished trench, began backfilling.

1440 B. Higgins & S. Shuff to Central Q

to look @ tomorrow's trenching

Locations - AT-Q-29, AT-Q-30

Spoke w/ Dan J. Eagle Marine -

gon to move crane - OK if

we trench @ AT-Q-29 tomorrow

1450 Finished backfilling trench.

1510 H4 trailer, unloading equipment,

discussing tomorrow's plan.

1600 Left site

B. Higgins

BH

(11)

6-2-05

0640 Arrived on-site, loading equipment.
Calibrating instruments.

PID 0-0	Multivac	0	0
100-96		0	20.9 VEC-0
Ultracut 0-0		54	24
PID 100-115		47	20.9 VEC-95

Multivac
BH

0700 H+S meeting

0800 Moving to Southern Q - AT-Q-29

PPE - Modified 1)

Weather - 80s, Overcast

Personnel - B. Higgins, K. Owings - URS

EMT - Andy Cameron, Bud Hicks, Alvin, Leo

CBM Hill - Emily, Clair Morris

0805 Setting up exclusion zone @ AT-Q-29 -
will start @ center of previously^{BH} trench
based on GPS coordinates (see page 36-41).
Will dig trench length ~ 20' bgs,
will use Volvo excavator to get as deep
as possible (was able to get to 21.5'
the 1st time), then use long-stick
to get through waste. We have already
submitted the subsurface & waste samples.

BH

6-2-05

112

Will only collect samples if get higher
PID readings.

0840 Began trenching AT-Q-29 - began @
"center", trenching west. - using
Volvo to excavate 0-~20' - what
we have already excavated once.
At ~ 0.5', brown silt w/ waste.

0905 Photo #50 - 0-~20-22'

0907 Switching to long-stick - Volvo
as deep as possible. TD-24' bgs

0925 Began trenching w/ long-stick
Photo #51 - Long-stick

0936 Grounded grey silt @ ~ ~~22~~^{22-23'}
BH bgs

Photo #52 - grey silt

Photo #53 - TD-27' bgs

Waste - 0-~~~22~~^{BH}-23-24' bgs

Gray wet silt @ ~ ~~22~~^{BH}-23' bgs

1000 Finished trench.

Total length - ~ 20' bgs

Total depth - ~ 27' bgs.

Began backfilling.

1130 Finished backfilling, disconnect

bucket.

1135 Back for lunch

BH

(13)

6-8-05

for VOCs, SVOCs, herbicides, metals,
ammonia, PCBs, pesticides, & dioxin
headsprc - 192 ppm, Also collect MS/MSD.
Strong ammonia-like odor.

1530 Preparing to collect surface sample
@ AT-Q-30, will collect adjacent to
trench, ~25' from S edge of trench

1545 Collected AT-Q-30-SS-1' γ , trowel
for VOCs, SVOCs, herbicides, metals,
ammonia. Also collected
AT-Q-30-SS-1'-D.

headsprc - 0

1630 Moving to trailer

1700 Left site

[Signature]

6-9-05

(132)

0645 Arrived on-site, loading equipment.

0700 H+S meeting

Weather - 80's, Overcast

PPE - Modikind D

Personnel - URS - Billings, R. Arney
EMA - Andy Cameron, Bud Hicks, Alvin Leo
CH2M/Hill - Emily McQuade, Clair Morris

0705 Waiting on utility clearance &
extend-a-burster/buckhoe for work
in Site P (W of PT's parking lot)

0720 Preparing to collect Field Blank on
trowel - ~~MS/MSD~~ ^{3/4} used to collect
surface sample @ AT-Q-30-SS-1'.

0740 Collected AT-Q-30-SS-1'-PB
for VOCs, SVOCs, herbicides, metals,
ammonia, PCBs, & Pesticides.

0830 Preparing to collect surface sample @
AT-Q-30, will collect adjacent to trench,
8'E of W edge of trench.

0850 Collected AT-Q-29-SS-1' γ
+ trowel for VOCs, SVOCs, herbicides,
metals, ammonia, PCBs, pesticides & dioxin
headsprc - 0 ppm

0900 Met. B.N.H. of site to

[Signature]

Location Sauget, ILDate 5-13-05Project / Client SA 2

1345 Go with Jack, Kevin & Charlie to start collecting drums left by the Prosonic crew. Pick up drums from SA-P-3, SA-P-1, SA-P-2.

1440 Take drums from site P to rolloff and dump.

1605 Finish dumping drums into rolloff. Wait for Walter (STL) to show up for sample coolers.

1635 Walter arrived and picked up coolers.

1700 Left site for the day.

WJ

Location Sauget, ILDate 5-16-05Project / Client SA 2

0605 Arrive on site.

0615 Help Mike load up for the day.

0700 Safety meeting.

0725 Head for Q-south.

0735 Meet Jack & Kevin at Q-south.

Show Jack what is needed around the power lines along the E. side of Q-south.

0750 Prosonic arrives at Q-south to start on locations on berm between the two lagoons.

0800 Wait for Charlie (Bobcat) to show up.

0850 Drive to pole barn and Q-central to look for Charlie.

0905 Found Charlie on the way back to Q-south.

0910 Clearing crew starts clearing around SA-Q-9.

0935 Clearing crew starts clearing around SA-Q-10 and AT-Q-35. Clearing at SA-Q-9 Finished.

1010 Finished clearing around SA-Q-10 and AT-Q-35. Begin clearing pathway to

- 0605 Arrive on site for the day. Help get loaded and ready for the day.
- 0700 Safety meeting.
- 0710 Head to Onyx to check on UAA-9.
- 0755 UAA-9 location found. A little bit more clearing still needed. Head back to pole barn/trailer.
- 0805 Back to Onyx to talk to Dennis Warchol.
- 0810 ~~Steve~~ Dennis said accessing UAA-7 (other side of American Bottoms) from the wooded area (Onyx property) South of the Onyx facility (near UAA-9) is not a problem. Accessing UAA-7 from here will involve clearing on Onyx property and into Village of Sauget property. Steve (URS) says we have permission from Village of Sauget already.
- 0825 Talk to clearing crew at UAA-9 about clearing to UAA-7.
- 0840 Head to Q-south for level B work.
- 0845 Arrive at AT-Q-35. Level B work about to begin.

- 1205 Trenching stops for lunch. Everyone beginning to decon.
- 1225 Head to Onyx to check on clearing crew and to get GPS back from Julie.
- 1250 Clearing crew almost to UAA-7. Jack left around noon for an eye doctor apt.
- 1305 Clearing crew will finish up this afternoon.
- 1320 Head back to Q-south for more Level B work (AT-Q-35).
- 1330 Back at AT-Q-35. Waiting for everyone else to arrive.
- 1405 Steve calls and tells me to dress in Level B as a backup during backfilling. Everyone shows up and starts dressing.
- 1450 Brandi & Kurt come out of contaminated zone and undress (finished). Bud (operator) backfilling the trench.
- 1505 Help packup while Bud finishes backfilling.
- 1520 Head to Onyx to check on clearing crew.

(69)

5-18-05

depth ~15' CH₂M Hill OK w/
lengths depth - nothing of significance
was found no drums or drum remnants.
Finished trench.

1230 Lunch.

1330 Began backfilling trench - modified
Level D.

~~1430~~ 1520 S. Shroff & B. Higgins met w/ K. Smith of
ABT to see if an access road existed
for profiling location. None exists.

1520 Finished backfilling. Preparing to collect
surface sample from AT-Q-36 - from
25' from northern end of trench.

1533 Receiving bucket.

1540 Collected AT-Q-36-SS-0.5 using
tunnel for VOCs, SVOCs, herbicides, metals,
ammonia, PCBs, pesticides, & dioxin.
Offset ~20' from edge of trench to collect
sample due to soil disturbance due to excavation.
1610 Back to trailer to discuss tomorrow.

1730 Left site

PKS

RA

5-19-05

(70)

0630 Arrived on-site, loading equipment.
Calibrated instruments.

PID 0 - 0

PFA - 0 - 0

100 - 101

Ultram 100 - 99.2

PID 0 - 0.1

CGM - see Justin's log.

100 - 101

Weather - Overcast, 80's.

PPE - Level B

Personnel - B. Higgins, K. Smith, S. Shroff

B. Williamson, W. Shering - URS

EMA - Alvin, Rep, Andy, Carney

CH₂M Hill - ~~John~~ Claire Morris, family

0720 Moving to next location. - AT-Q-35

0725 Setting up exclusion zone

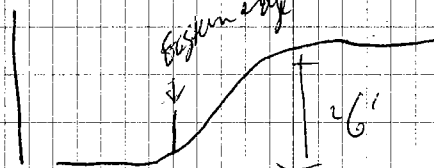
0900 Began trenching AT-Q-35 - trench

runs E/W, began trenching @

Eastern edge of trench - trench

west - beginning @ top of slope.

Photo # 25 - AT-Q-35 - Slope



RA

①

5-19-05

- 0-5' - Encountered municipal fill -
bricks, tires, trash, some wood
Photo # 26 - fill material
- 0910 At ~10' from Edge, encountered intact
drum lid, very deteriorated.
Photo # 27 - Drum lid
- 0915 Encountered 25% of bottom of drum,
crush, deteriorated.
Photo # 28 - Part of drum
- " 29 - More metal + orange paint
preparing to collect waste sample from bottom
of trench (E end (close to where
drum was encountered). ~ 10' by,
5' from E edge of trench.
- 0935 Collected AT-Q-35 - WS-10' from bucket
for VOCs, SVOCs, herbic. dismet. is, ammonia,
PCBs, Pesticides, dioxin, & TCL Analysis.
- Continued trenching
- 0950 Headspace - 16.7 ppm
Encountered another part of a drum - ~ 1/4,
crushed - PID reading - 20 ppm.
- 1000 ~ 12' by, ~ 15' from E edge encountered
what appears to be intact drum -
bucket punctured drum - clear liquid

BH

5-19-05

②

- leaked out for a few minutes, ~ ²⁵2-3
gallons.
- Attempting to scrap material from
top of drum & removed another
intact drum - bucket cut drum
into 2 pieces - yellow solid material
in drum - PID - ~ 600 ppm
- Photo 30
" 31
" 32-38
- 1015 Taking a break to discuss plan
- 1055 Going to continue trenching - clean
out bottom of trench, then gently scrap
back wall by teeth.
- 1115 Collected AT-Q-35 WS-8' from
bucket (the intact drum (cut & pipped
apart) & yellow solid.
Analyze for VOCs, SVOCs, herbic. dis,
metals, ammonia, PCB, Pesticides,
dioxin & TCL analysis.
- Collected from ~ 20' E of E
edge of trench. Headspace - 75.8 ppm
- 1130 Encountered part of drum ~ 25%,
crushed, Photo 39

BH

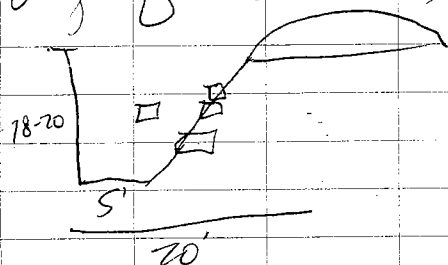
(23)

5-19-05

1145 Sewerage in issues in trench,
rigid flowing in, 4-5 drums
exposed in walls.

1200 Stopped for lunch - finished &
trench.

Lengthy trench - ~20',



1430 Preparing localized subsurface sample &
ATL-Q-35.

1440 Collected AT-Q-35-SB-0' from bucket -
collected sample from ~6' by from W wall.
Analysis for VOCs, SVOCs, herbicides, metals, &
ammonia. Headspace - 258 ppm

~~Began backfilling AT-Q-35, packing equipment.~~

After lunch, 60-Horn of trench full
of CW.

Began backfilling AT-Q-35, packing equipment.

1530 Reconned bucket

1610 Collected AT-Q-35-SS-0.5' from near

BT

5-19-05

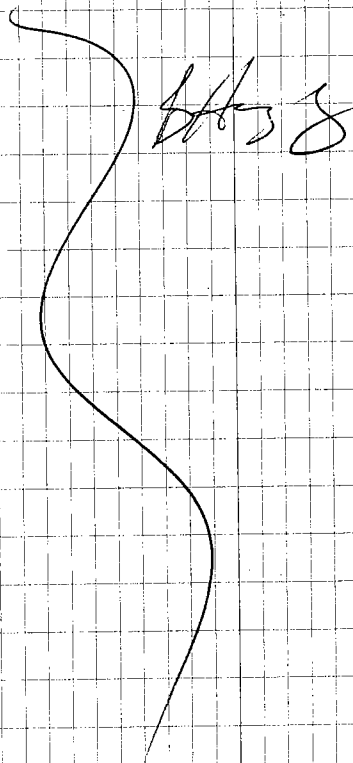
(74)

Subsurface sample was collected.
Analysis for VOCs, SVOCs, herbicides,
metals, ammonia.

Photo - AT-Q-35 - after

1630 Moving back to trailer to unload
equipment.

1800 Left site



BT

Location Sauget, IL Date 5-24-05Project / Client SA-2

the trench location on the barge ramp in Q-Central. (Kurt called)

1000 Get the Geotextile loaded on the bobcat to take to the trenching crew.

1020 Head to Q-south with Jack & Kevin to mark the 4 new trench locations as follows:

50' S of AT-Q-33

50' E of AT-Q-33 *

50' N of AT-Q-35 *

50' W of AT-Q-35

* points not marked now because of brush in the way.

1110 Head back to pole barn/trailer.

1115 At trailer to talk to Steve

1130 Leave site for the day

[Signature]

Location Sauget, IL Date 5-25-05Project / Client SA-2

0600 Arrive on site for the day. Help load up for Level B profiling work today.

0700 Safety meeting

0715 Meeting with URS people about the tentative schedule for the remainder of the SA-2 project.

0725 Take a load of trash (NON-PPE) to the dumpster.

0730 Head to Q-south to check on the progress the clearing crew made yesterday.

0740 Jack and Kevin arrived at Q-south. They said Charlie was getting fuel and would then head over here.

Brandi called and asked for Charlie (bobcat) to dress up the trench location on the barge ramp in Q-Central. Jack and Kevin went to relay the message to Charlie.

0820 Jack and Kevin return to Q-south. Continue clearing areas marked yesterday.

1030 Finish clearing for the trenches 50' S of AT-Q-33 and 50' ~~E~~ of AT-Q-33.

Location Sauget, ILDate 5-25-05Project / Client SA-2

- 1035 I realized the trench is supposed to be 50' E (not W) of AT-Q-33. We will go back and clear in the correct direction (E) of AT-Q-33 when finished ~~at~~ clearing the new trench locations 50' N and 50' W of AT-Q-35.
- 1040 Begin clearing new trenches around AT-Q-35.
- 1145 Clearing crew breaks for lunch.
- 1150 Head for trailer to talk to Steve about clearing.
- 1230 Back at AT-Q-35 in Q-South. Clearing back from lunch.
- 1400 Finished clearing the new trench locations near AT-Q-35. Back to AT-Q-33 to clear for the trench to the E of the trench already dug.
- 1500 Clearing crew done for the day. Some brush hogging left to finish up tomorrow mornig.
- 1510 Check on Level B work at AA-Clay-2. Finishing up. I help them load up.

Location Sauget #1LDate 5-25-05Project / Client SA-2

Olund will come pick up their air line tanks tomorrow morning

- 1545 Head back to pole barn to unload.
- 1555 Talk to Steve at the trailer.
- 1630 Leave site for the day.

Location Sauget, ILDate 5-26-05Project / Client SA-2

- 0605 Arrive on site for the day.
- 0700 Safety meeting
- 0710 Wait for Oilind to show up to pick up the airline tanks they dropped off the other day.
- 0720 Oilind arrives. Lead Oilind to AA-Clay-2 to pick up tanks.
- 0740 Head to Q-South to mark UAA-10 off set from the property E of the levee to the W side of the levee, staying as close to the levee as possible (Andrea is making calls to find out how close we can get).
- 0755 UAA-10 marked ~410 Ft W of its original planned location.
- 0800 Take supplies to Kurt & Brandi at AT-P-2
- 0815 Head back to Q-South to check on clearing crew (supposed to be brush hogging areas cleared yesterday).
- 0830 Clearing not at Q-South yet. Bobcat still dressing up the trench location on the barge ramp in Q-Central.

Location Sauget, ILDate 5-26-05Project / Client SA-2

- 0930 Clearing crew arrives at Q-South with brush hog to finish clearing new trench locations around AT-Q-35 and AT-Q-33.
- 1100 Clearing crew finished in Q-South. They are heading back to the trench on the barge ramp to see if more rock arrived for them to finish dressing it up.
- 1105 Check on Justin and Brian and the profiling crew at UAA-10.
- 1135 Back at trailer.
- 1200 LUNCH
- 1215 Help Andrea around trailer/pole barn.
- 1330 Run errands for Andrea.
- 1440 Return to trailer/pole barn and unload.
- 1445 Talk to Jack & Kevin. Send them home for the day.
- 1450 Head to American Bottoms to get the gate unlocked for Adam (Prosonic) so they can finish SA-S-1.
- 1500 meet Brandi & Kurt at AT-P-4 and wait for them to finish gathering a surface sample.

Location Sauget, ILDate 5-27-05Project / Client SA-2

- 1245 Head to UAA-5 to check on clearing crew
- 1455 UAA-5 marked ~ 220' E of the RR tracks and ~ 370' S of the RR trusses (~ 145' S of its location on the sampling locations drawing). This places UAA-5 within E. St. Louis property (not RR property). The path to and area around UAA-5 is mostly cleared and will be completed on Tuesday. ~~UAA-5~~ UAA-5 was moved because we only have permission to clear through RR property (not to drill). We have permission to drill on E. St. Louis property.
- 1500 Back to pole barn/trailer
- 1515 Leave site for the day.

Location Sauget, ILDate 5-31-05Project / Client SA-2

- 0610 Arrive on site for the day. Work on sample tracking and printing labels needed for the day.
- 0640 Load up for Level B trenching work today.
- 0705 Safety meeting
- 0710 Finish loading up for Level B work.
- 0720 Miscellaneous duties around trailer. Fax COCs from 5/27/05 to Craig Johnson in the URS-Omaha office.
- 0800 Arrive in Q-South to help set up for level B work in the vicinity of AT-Q-35.
- 0830 Begin setting up and helping others dress for Level B work. I am serving as the life line (with phone and vehicle). We are doing the additional test trench ~ 50' W of AT-Q-35 first.
- 1115 LUNCH
- 1130 Sample tracking, supply ordering, etc. around trailer
- 1200 Back to Q-South for more Level B work ~ 50' further W from

Location Sauget, IL Date 5-31-05
 Project / Client SA-2

AT-Q-35.

1420 Begin the test trench located ~50'
 N of AT-Q-35.

1600 Return to pole barn to unload

1620 Miscellaneous around trailer

1630 Leave site for the day.

[Handwritten signature]

Location Sauget, IL Date 6-1-05
 Project / Client SA-2

0625 Arrive on site for the day. Help
 load up for Level B trench work
 in Q-south.

0700 Safety meeting

0705 Continue getting ready for Level B work
 today.

0720 Wait for Walter (STL) to show up
 for yesterday's sample cooler and
 for FedEx to show up with supplies
 ordered.

0745 Head to Q-south to help set up for
 Level B test trenching

0830 Help with Level B test trenching
 (Life Line)

0840 Dan Geisler (EMA) shows up.

1040 Justin (URS) arrives so I run some
 errands.

1145 Back at trailer/pole barn. Miscellaneous.

1245 Head to Q-south for more Level B
 work this afternoon.

1320 Back to pole barn to meet with
 Oilind picking up empty tanks.

1330 Oilind arrives and says they will have
 the tanks back around 0830 tomorrow

[Handwritten signature]

Location Sauget, IL Date 6-2-05
 Project / Client SA-2

- 0835 Head to trailer to talk to Steve about what we are supposed to be doing. We are supposed to locate the wells previously installed and determine access.
- 0855 Head out again with Mike Miller. See Mike's book for location and access notes.
- 1200 Check on AT-P-2, which was dressed up with soil brought from off site. Some debris still visible. PID readings = 0.0
- 1205 Check on AT-P-4, which was dressed up with soil brought from offsite. Little to no debris visible. PID readings = 0.3 or less. 72°, overcast, looks like it wants to rain.
- 1210 Back to trailer to talk to Steve.
- 1220 Lunch
- 1245 Out to locate previous wells. See Mike Miller's field book for notes.
- 1500 Back at trailer/pole barn to talk to Steve. Miscellaneous work.
- 1600 Leave site for the day.

WJ

Location Sauget, IL Date 6-3-05
 Project / Client SA-2

- 0605 Arrive on site. Timesheet and miscellaneous duties around trailer/pole barn.
- 0705 Safety meeting
- 0710 Load up for the day. Wait for Walter (STL) to pick up sample coolers from yesterday. Miscellaneous duties around trailer/pole barn.
- 0730 Walter arrives and picks up sample coolers from yesterday and signs COCs.
- 0735 Fax COCs to Craig Johnson (URS-Omaha). Miscellaneous paper ~~stuffing~~ filing in trailer.
- 0745 Begin locating previous wells again. See Mike Miller's (URS) fieldbook for location and access notes.
- 0930 Check on clearing crew dressing up trenches in Q-south with additional dirt while locating previous wells. Trenches so far (AT-Q-35) look good — the exposed debris is covered.
- 1230 Lunch and various office duties

WJ

136

Location Sauget, IL Date 6-20-05Project / Client SA-2

- 0635 Arrive on site.
- 0745 Head out with Brandi to sound wells for GW sampling. SEE Brandi's field book (URS) for notes.
- 0845 Return to trailer; talk to Steve and Andrea about what to do next/what needs to be done.
- 1035 Head to office to do expense report and other paperwork
- 1140 Back at job trailer
- 1145 Lunch
- 1200 Miscellaneous around trailer
- 1240 Head to Lot F to meet Wetzel (Roberts) at GM-17-C. See other field book for notes.
- 1645 Leave site for the day.

WD

137

Location Sauget, IL Date 6-22-05Project / Client SA-2

- 0630 Arrive on site. Miscellaneous paperwork, etc. around trailer.
- 0730 Discuss plan for today and upcoming events
- 0810 Head out to Q-South with Brandi (URS) to measure distance (linear) between SA-Q-10 and AT-Q-35
- 0830 76 ft measured between SA-Q-10 and AT-Q-35
- 0840 Back to trailer
- 0910 Head out with Brandi (URS) to sound more wells. See Brandi's log book for notes.
- 1045 Return to trailer. Miscellaneous paperwork.
- 1315 Mob to Onyx to get GPS coordinates for UAA-8
- 1335 Coordinates for UAA-8 stored in GPS
- 1345 Back at trailer.
- 1350 Take paper towels to Brian W. (URS) in Site O.
- 1405 Back at trailer. Head to Lot F to measure height of casing above

WD

6-4-02

①

80-90's Sunny

Projects (continued)

Na

Ac

Ph

0700 Arrived on-site, held
site safety meeting.

0720 Began calibrating equipment -
PID - 00 - 0.0 ppm
CGM - Regulator broken,
RAM - needed.

0800 Began preparing equipment, waiting
for CH2MHill to begin trenching.

0900 CH2MHill on-site, discussing
allowal agency installation -
cancelled.

0930 At Bound Trench-Q-1 w/ EMS

1000 Waiting on agreement from CH2MHill
on definition of "waste"

1010 Received approval from CH2MHill to
begin @ Bound Trench-Q-1.

1020 Began setting up on Bound Trench-Q-1/
floored poly sheeting down - 20' x 20'
section. In hard C-type,
respirator.

1030 Began excavating rock layer,
placing on sheeting.

1045 1st test - minus EMS, at
a 1' in 4" rock

1050 At #2 - out of EMS 4" rock &

Th
sp
w:

D:

②

6402

Bmtt

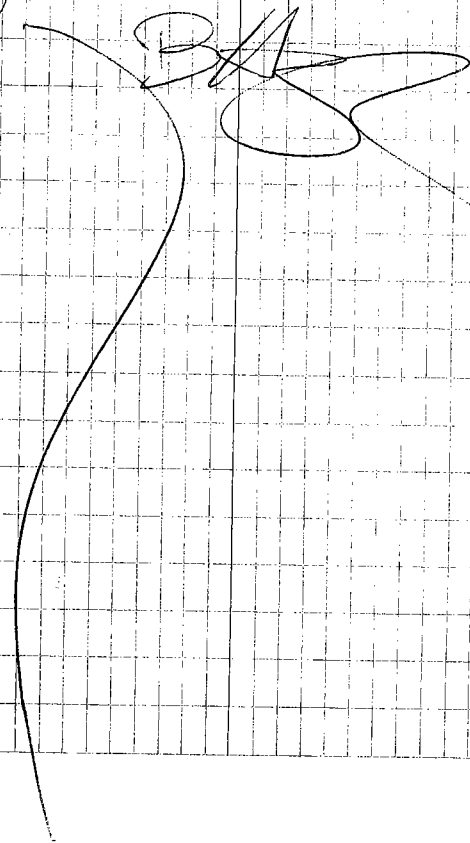
- in brick, concrete debris
- 1110 At ~ 35', in black contaminated soil w/ brick, concrete, cinders.
- 1140 At ~ 55' - hit a slab of concrete
- 1200 Bkt for lunch.
- 1300 Bkt @ Bond Trench Q, contains excavating, moved excavation area to ~ 5'. Not original trench due to concrete slab destruction.
- 1345 ~ 2-2 Lms rock
- 1400 ~ 2-3' - Brick & concrete debris
- At ~ 3' - cinders, brick & concrete
- 1430 Encountered same slab of concrete in this 2nd trench. Integrity good in most places, towards N end of trench impacted soil (yellowish). Spoke w/ Steve (URS), Reagan (Hearst), & Chad Hill. Decided to backfill existing trench & clear utilities for a wider corridor & come back at some point.
- 1500 Began backfilling current trench (in reverse order).

6-4-02

Bmtt

③

- Steve (URS) ok'd down grade to level D - w/ truck.
- 1700 Finished backfilling cinder debris - put plastic sheeting in trench, began placing rock
- 1720 Finish backfilling - left Cg. point @ trench location, put drums in pond.
- 1740 Left site



13) BH
6-7-02

on Saturday morning, Melissa
checked w/ Eagle Marine -
that is OK.

BH

6-10-02 13)
BmH

0700 Arrive on-site, overcast, 80s,
held site safety meeting.

0720 Began calibrating equipment
PID-0-0 100-100

CGM-10-50 HSS-75 LGL-0 G-20.9

RAM - zero

0750 Backhoe not fixed over weekend,
waiting for new backhoe to be delivered
or for existing hoe to be fixed

0830 New backhoe delivered, began setting
up on BT-Q-1

0905 Began trenching bound trench Q-1,
offset 215' to west from original
location. Trench on 6-402
(encountered intact concrete pad)

0-2-LMS rock

2- Black cinders 4 brick +
concrete debris, old paint

26-7' Encountered municipal waste (bags, tires)

1030 Reagan said since we are already in
waste, move trench to north to
find boundary - not going to
attempt to get through concrete pad.

TD ~ 10'

1040 2nd 10' section, no waste, encountered

(14) April
6-10-82

- concrete pad again @ ~5.5-6'
pad on 3' thick - 1st den'
section was edge (S)
- 1050 Sky spotted lightning across
river, sky very ominous, shut
down until it passes over.
- 1130 Break for lunch
- 1205 Sky has cleared up, begin
finishing up on BT-Q-1 by
Reagan said complete the trench
by finishing out 4 40' in length,
elbow to concrete.
- 1230 In last 10' of 40' trench (to N),
concrete pad appears to drop,
yellowish green colored concrete (similar to 1st Q-1 trench)
- 1235 At ~10' deep encountered fine
product - no hits on P.D. Stern
said to backfill trench in order
to keep extending out to north - to
determine edge of boundary,
began backfilling.
- 1300 Finished backfilling all but top 2-2.5'
As Ricky finished backfilling, George
is going to begin treading the last

BTH
6-10-82 (15)

section.

- 1305 Q-2 - LMS rock
2 - Black under 4 brick & concrete
debris
- 1310 At ~3' - encountered brown thick
liquid - very small amt. - continued
for Stern.
- 1312 Encountered concrete pad @ ~5'
- 1315 In waste @ southern end of last 20'
section of trench Q-1 -
No waste in northern most 15' -
pad @ 5'
- 1320 At ~15' - thru weak section
of concrete pad & still in
waste. End of trench ~10'
from fence line. Gray slightly black material under
concrete. Began backfilling.
- 1400 Began moving bulkhead up to next location
as Ricky finishes up backfilling.
- 1410 Left Q-1 to find next location
for George.
- 1430 At Bound trench Q-7. Selling
up. Sky dark, holding off until
it looks better
- 1500 Sky cleared up a bit - Melox said

26 July 2002

12:35 Prosonic installing well

12:45 Prosonic cleaning up and preparing to demo back to trailer for decan. EKF going to put locking cap on LEACH-Q-3

13:35 Prosonic to lunch. Also

Waiting for CH2M, Reason & US to determine location & next leachate well.

EKF filling out drum log

14:00 Decide to put Leachate well at location of Q-1 waste baring. This hole had free product in it. To save a decan step I will work with the Phoenix rig at this location and my crew will do the remaining waste baring.

14:31 Setting up for LEACH-Q-1

14:45 Start drilling LEACH-Q-1

Using respirators to drill w/ and check samples

15:15 Down to 12' bgs. Did not encounter native material beneath the fill. However a

26 July 2002

Large piece of concrete blocked the cone bit at 10 1/2' bgs. This concrete prevented any additional material from entering the cone, but below that depth. Discuss with John Reason and Jeff of CH2M Hill. John

states that he is confident that we reached the bottom of fill based on our close proximity (5 feet) to waste Q-1. Bottom of fill was 12' bgs in waste Q-1. Jeff agrees and everyone involved agrees to set the well at 12' bgs.

15:30 Prosonic installing well material

16:00 Cleaning up around LEACH-Q-1.

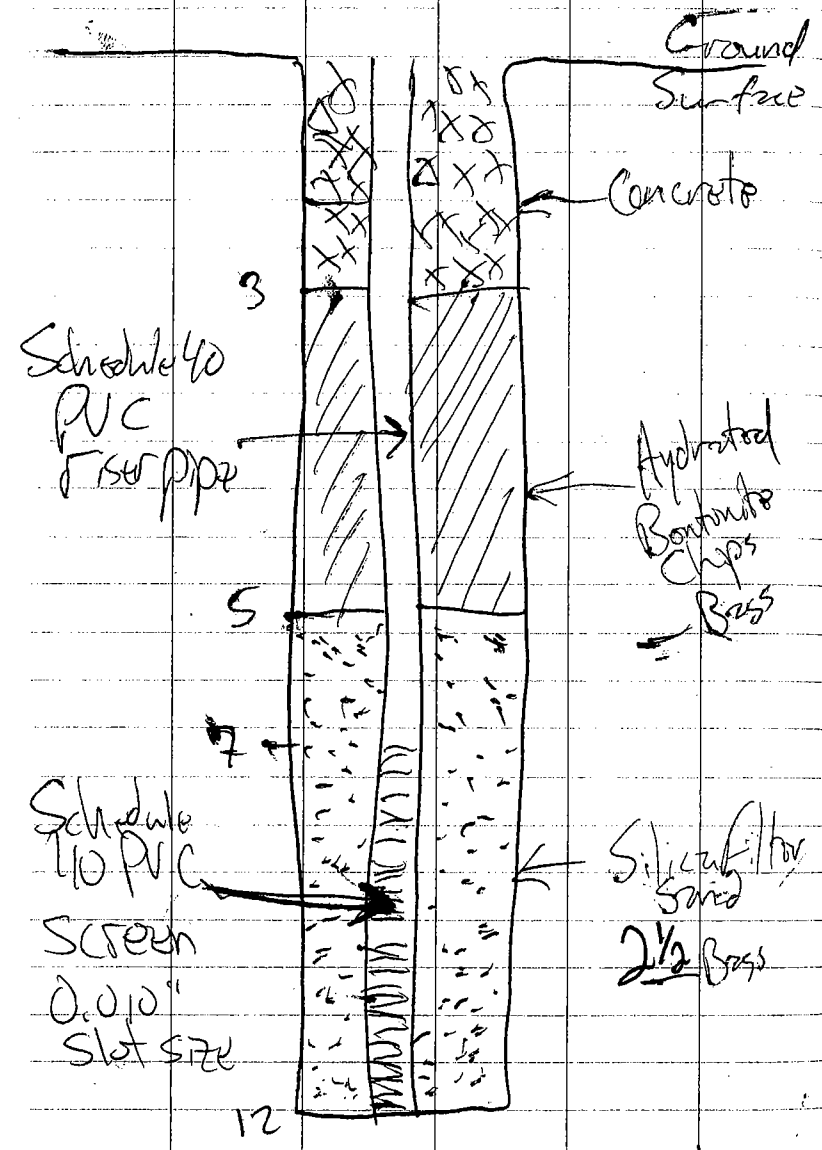
One of the drums has a hole in it, punctured while we were unloading previous contents. Likely I tell Oscar to just put the drum inside one of the 80 gallon overpacks.

16:10 EKF Looking up leachate wells and labeling drums @ each location

(102)

26 July 2002

Well construction LEACH-Q-1 (N.T.S)



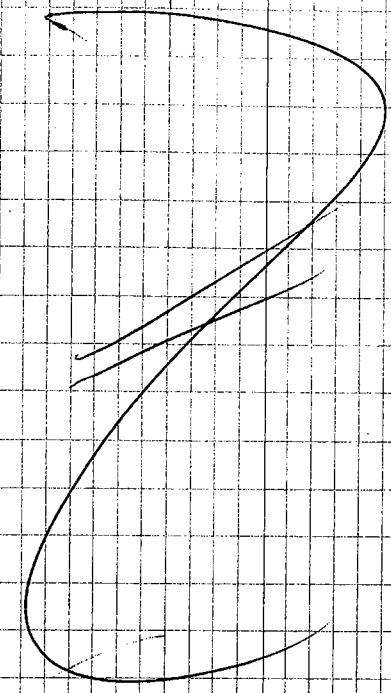
Used 750 gallons of water

LOCKED Q-2
Q-1
Q-3
P-1
Q-1

(103)

26 July 2002

1650 Lock LEACHITE areas
 LEACH Q-1, Q-2, Q-3, P-1 and
 Q-1. Did not lock S-1 and
 R-1 however, the wells are
 located within a fenced
 secure area.
 17:30 Leave site for the day



TE. 8.9
 7.26.02

(110) 30 July 2002

vents. EKF labeling sections of rock core which are to be submitted for thin section analysis.

11:45 EKF # drums at site Q and PR-8

Examine LEACH-Q-3. Surface protector is too high ($\approx 4\frac{1}{2}$ feet) above grade and the PVC riser is too deep ($\approx 2'$) down into the casing. Steve Shroff is coming over to pick me up for lunch. I call him to alert him of the situation. He comes over to look at LEACH-Q-3. We also look at BARK-Q-2. It is also too high and the riser too deep.

12:10 We go over to the Prosonic crew ~~to~~ ~~the~~ working on the above ground completion of PR-8 to alert them. They are finishing up and we meet them on the way out of the gate. Tell them these wells must be fixed.

30 July 2002

(111)

Either by cutting the protective casing off lower, rewelding the hinge and, neg' any or, by extending the PVC riser higher. Preferred method would be to cut off the protective casing. This would make the riser closer to the top of the protection casing and make the casing lower allowing for easier access.

12:30 Chocking other wells and

Prosonics for height

13:20 Leave for lunch

13:45 EKF labeling drums in site Q and chocking height of well/protonator completion in site P. To sonic decanning

14:30 Prosonic still decanning

15:30 Prosonic finishing decan EKF labeling drums

16:00 Prosonic crew begin work to install the traffic vault at LEACH-Q-1

17:00 Prosonic still working on LEACH-Q-1

18:30 Prosonic finish LEACH-Q-1 vault. Leave site for the day E.O.D. ~~End~~

8-19-02 (D)
Bm4

Projects (continued)

0700	Arrive on site, Steve held site safety meeting. 80s Overcast.		
0705	Rosini calibrated equipment -		
	PID - 0.4	200 - 110	
	RAM - y/ned		
	CGM - H ₂ S CO ₂	660 02-207	
	A ₂ S-75 CO ₂	661-50	
0730	Began taking well caps off of all leachate + bedrock monitoring wells.		
0700	Finished opening all wells		
0710	Began taking water level readings + interface probe.		
0720	At BDRK-P-1.		
	DTW	TD	
	BDRK-P-1	15.86	159.86 Soft
0740	Leach-P-1	Dry	25.50 drier product
0751	Leach-P-1	Product - 15.08 15.09	17.35 hard, drier
0800	Leach-P-1 ^{BDRK-P-1} Product - 15.08 15.09	10.38	hard, drier
	Do lock		
0812	BDRK-O-1	Product 18.50 18.51	154.11 Soft, drier
0825	BDRK-S-1	Product 21.56 21.57	165.72 Soft
0850	Leach-Q-3	Dry	11.79
0955	BDRK-Q-2	Product 8.48 10.485	145.41 Soft
1023	Leach-Q-1	Product 11.15 11.16	127.73 drier, hard
1030	BDRK-Q-1	26.25 36.26	161.85 Soft

② 82H

8-19-02

	Product	DTW	TD	
1144	Leach-Q-2	16.49	16.495	16.80 color hard
	to lock			
1201	BORK-R-1	24.79	24.30	164.49 color - soft
1210	Leach-R-1	21.07	21.075	26.02 hard color
1230	done			
1330	Preparing to develop wells. Steve called John R. to get ok to go ahead.			
1345	Mob to Leach-Q-1 to develop w/ 1 1/2" polyethylene hater by removing 5 well volumes - 184 gal.			
1350	Bumping.			
1358	Finished purging - well dry after purging 1 gal. Began picking up equipment.			
1410	Moving to Leach-Q-1. Steve seems to call John R. again about small volume of water in most Leach-Q-1 wells.			
1435	Began purging Leach-Q-1 using bailer.			
1444	Finished developing Leach-Q-1 by purging 5 well volumes - 1.5 gal.			
1500	mopping to S & R			
1520	Setting up on Leach-R-1.			

Time	pH	Card Cont.	Purge	Flow	Vol	Color	Temp	Color
1350	7.07	1.35 mg/L	21.0	6.3	0	yes	18.7	yellow
1353	6.4	1.35	17.3	6.53	1.3	yes	100	26.5 brown
1358	dry							
1435	8.19	1.945	20.7	7.3	0	yes	18.6	yellow
1437	7.10	1.810	18.68	17.5	0.5	yes	100	29.2 Brown
1440	6.32	1.851	18.08	20.4	1	"	112.9	"
1444	6.00	1.803	17.8	19.5	1.5	"	125.1	"

Leach-Q-1

Leach-Q-1

Ваш 0-21-02

21.3	134.
------	------

color	gray	gray
-------	------	------

7263	9992	2992
------	------	------

order

26	1	2nd
----	---	-----

5.	OK	2/1/10	2000	1-1
----	----	--------	------	-----

55.81	22.61	Temp
-------	-------	------

Q. 846 1.352

9.18
11.58
pH

8590	9480	7471
------	------	------

0854 Flow rate - ~1 gal/min
0905 Dig - pumped ~15 gals - well levelizer
Began picking up equipment.
0940 Began opening up all well caps.
1120 Finished opened all wells.
1255 Began gauging water levels all wells.

DTW

TD

BARK-P1	153.75
---------	--------

159.88

BDRK-Q-1	32.02
----------	-------

166. 70

Leah Qd 15.57

15.75 Strong ch.

Levy 2-1 10.15

11.62

Jack S-1 9.52

7.86	
------	--

Class: D-1 1525

K. 97

BDRK-D-1	17.56
----------	-------

156.25

BORK-S-1	19.58
# 1 P 1	21.10

166.95

Beach - 1-1	24.84
-------------	-------

25.06					
-------	--	--	--	--	--

Book - Q-2	17.95
------------	-------

194.7	
195	

Leach - Q-3	10.90
11.10	1

11.30					
11.40					

100K - K=1	not recovered
100K - K=1	

162.35

1695	Finished grouting wells
1700	2 wells

100	left side
-----	-----------

7 BH

9-10-02
BMIT

- sample w/ peristaltic pump -
PPE - Level D.
- 1130 Water level - 16.30
- 1200 Sample Leach-Q-1
VOCs, SVOCs/Pest/Herb/PCBs
(4 Ambers), Dioxin and Metals
(1 Amber)
- 1205 Leach-Q-1 - done.
- 1345 Back to Leach-Q-1, finished
1st 1L Amber & began 2nd 1L.
Mobbing to Site R to collect
sample w/ bucket.
- 1430 Began collecting Leach-R-1
w/ bucket - sample time labeled as
0745. Sampled for VOCs, dioxin,
SVOC/PCB/Pest/Herb & Metals.
- 1630 Finished collecting sample -
Also collected Leach-R-1-MS &
Leach-R-1-MSD.
- 1635 Mos to Leach-Q-1 to
continue filling 1L Ambers.
Were not able to fill last one full -
only pumped ~ 5".
- 1650 Back to pump to put samples.
- 1830 Fred & arrives to take codes, left site

7BH

9-11-02
BMIT (52)

- 0700 Arrived on-site, Steve held site
safety meeting.
- 0710 Calibrate equipment -
PIP - 0-0 100-102
RAM - moved
COM - 1450 10-0 LCL-0 02-20.9
465-24 10-49 LEL-49 02-20.9
- 0730 Load truck w/ equipment.
- 0745 Mos to Leach-Q-1 to continue
sampling - Almost have 2nd
Amber full.
- 0800 Mos to Leach-Q-1, began
setting up.
Water level - 10.26
- 0850 Began pumping 3 well volumes
w/ peristaltic pump
- 0930 Sample LEACH-Q-1 and DUP
VOCs, SVOCs/PCBs/Pest/Herb(4)
Dioxin, Metals
Leachate well is a dark yellow
color
- Note: Actual sample time ~ 9:00.
- 0935 pack up Leach-Q-1
- 0940 Mobbing to trailer to pack
to samples.

(63)

9-23-02

water levels cont

Bdrk-S-1 22.67 166.17

Bdrk-D-1 19.55 158.05

ADM Piez-7 S 24.87 27.65

M 32.84 75.87

D 32.51 118.91 soft

trailer Piez-9 S 7.79 19.41 hard

M 7.84 64.56 hard

D 7.71 105.45 soft

Piez-6 S 19.37 30.72 S

M 19.28 74.41 S

D 19.34 114.90 S

Bdrk-Q-2 20.11 143.28

Leach-Q-3 10.88 11.32 h

Leach-Q-2 15.56 15.86 S

Bdrk-Q-1 37.06 165.80 S

Q Piez-4 S 36.27 52.50

M 36.35 94.54

D 35.83 ~~13.31~~ 13.31

Leach-Q-1 10.33 11.68 h

Leach-R-1 20.53 25.55 h

1850 Jelt site

} BH

WEDNESDAY 1-22-03 (64)

Quarterly groundwater monitoring.

1300 Calibrate PID-Mini Rae

Fresh air. Oppm

Isobut: 101 ppm

1409 Arrive at site

PERSONNEL: Kim Haskins and

Martin Swanson of URS

WEATHER: ~17°F, cold, snowy ~1/2"

LEVEL of PPE. Modified Level D

Equipment: Interface probe, PID

1415 Start opening

PID DTW

BDRK-R-1 0.8 37.61
(Ambient air 2.5)

BDRK-S-1 0.2 28.64

PIEZ-8S 0.0 13.25

PIEZ-8M 0.0 14.84

PIEZ-8D 0.0 14.48

PIEZ-2S 0.0 26.50

PIEZ-2M 0.1 36.33

PIEZ-2D 0.0 36.22

PIEZ-3S 0.0 32.99

PIEZ-3M 0.0 32.95

PIEZ-3D 0.0 32.85

(65)

1-22-03

	PID	DTW	
Leach-P-1	0.0	25.18	bottom (no water)
BDRK-P-1	0.3	53.44	
BDRK-O-1	0.0	25.06	
Leach-O-1	0.0	17.11	bottom (no water)
Q PIEZ-4D	0.4	42.39	
PIEZ-4M	0.7	42.91	
Q PIEZ-4S	0.0	42.90	
BDRK-Q-1	0.8	43.58	
LEACH-Q-1 inaccessible - pallets on top			
1700 Quit for day			

THURSDAY 1-23-03

(66)

0720 Arrive at Site
 Personnel: K. Hoskins and M. Swanson of URS
 Weather: 20°F, wind chill -10 to -20°F
 Sunny
 Level of PIPE: Modified level D except as noted.
 Equipment: PID & Interface probe
 PID checked calibration:
 Fresh air 0 ppm
 Isobut 101 ppm
 7:35 continue from yesterday

	PID	DTW
LEACH-R-1	0.0	21.10
LEACH-S-1	403	9.55
PIEZ-5S	0.0	22.02
PIEZ-5M	0.0	21.95
PIEZ-5D	0.0	22.30
BDRK-Q-2	50.6	25.09
LEACH-Q-3	0.0	10.90
PIEZ-9S	0.0	10.71
PIEZ-9M	0.0	10.77
PIEZ-9D	0.0	10.64

Pallets

KTH

(67)

1-23-03

	PID	DTW
ADM PIEZ-7S	0.0	27.72-bottom (no water)
PIEZ-7M	0.0	31.72
PIEZ-7D	0.0	38.95
WTF PIEZ-6S	0.0	23.72
PIEZ-6M	0.0	23.60
PIEZ-6D	0.0	23.59
Leach-Q-1	1.0	25.40-bottom (no water)
Piez-1S	0.3	23.40-bottom (no water)
Piez-2M	1.6	37.98
Piez-1D	1.9	38.05
Leach-Q-2	see note	

note: After using UTM coordinates and Garmin GPS III Plus, unable to locate - shoveled ~ 15' x 15' area, but "hard" gravel prevented finding 11:45 Water levels

1:45 completed checking water levels.

Leach-S-1: lock is broken - needs replaced

Leach-Q-1: flagged pallet of mulch adjacent to well. Could not get bar to slide into place to secure/lock well. Took lock with me.

Piez-6: Key did not work (locks KH

1-23-03

(68)

are being changed and Solutia Security doesn't have new key yet.

1630 left site

~~HH~~

(69) 2-5-03 WEDNESDAY

0700 Arrive @ SA2

Personnel: K. Hoskins & S. Shroff
of URS

Level of PPE: Modified level D

Equipment: Waterra, turbidity,
YSI, MultiRAE

0730 Calibrated YSI & turbidity

YSI: Conductivity 1.475; 1.409

DO: 106.5%; 100.0%

pH 7: 6.54; 7.00

10: 10.32; 9.99

4: 4.49; 4.09

Turbidity: Intu: 1.06; 1.02

10ntu: 10.92; 10.02

0815 Talked with Tommy Seals &
Eagle Marine - would like
for us to sample Leach-Q-1
today so they can move
pallets back.

0830 Picked up drums for BDRK-P-1

~~at~~ M. Foresman @ trailer - told him
URS inc is missing mouse/
adapter. Will bring over later.

0841 Start purging BDRK-P-1
with waterra. (53 gal) - PG72

0925 Dry w/18 gal — KH

2-5-03

(70)

1000 Set up @ Leach-Q-1

1028 Start purging (0.6 gal)

Flow rate 2 QSL/min

no parameters

1045 SAMPLE LEACH-Q-1

LEACH-Q-1-MS

LEACH-Q-1-MSD

	Q-1	Q-1-MS	Q-1-MSD	
VOCs	3	3	2	HCL
Ambers*	4	4	4	none
Dioxin	2	2	2	none
Metals	1	1	1	HNO ₃

*SVOCs, PCBs, Pest, Herb

11:30 Still filling ambers → run Steve
to his car to leave for therapy.
Return to collecting ambers

11:47 continue sampling

12:15 Finished sampling/pack up.

12:40 Informed Eagle Marine that we're
finished.

12:45 @ barn to unload/go to Wal-Mart, ice
etc.

1400 Back from Wal-Mart

1430 Go to BDRK-P-1 to retrieve tubing
that fell down hole. KH

(99)

4/22/03 TUESDAY

0700 M. FELTON + K. HOSKINS ON SITE. CALIBRATE EQUIPMENT UNPACK SUPPLIES. DAILY H + S MEET.

0735 MOBILIZE TO SEE IF PIEZ-1 IS ACCESSIBLE YET. IT IS NOT, GATE IS STILL ~~SH~~ LOCKED.

0740 GO TO EAGLE MARINE + LET TIM KNOW WE ARE GOING TO BE ON THEIR PROPERTY. WE FIND LEACH-Q-1. IT IS NOT WHERE WE ORIGINALLY THOUGHT IT WAS. WE WILL MARK THE NEAREST FENCE POST WITH DUCT TAPE, SO WE CAN RELOCATE THE WELL AGAIN IN THE FUTURE.

0750 GET LEACH-Q-1 OPEN. IT IS FULL OF WATER. DRILLERS DID NOT PUT A HOLE IN THE BOTTOM (WHICH IS CONCRETE) TO ALLOW DRAINAGE OF SURFACE WATER THAT INFILTRATES THE WELL COVER. THIS NEEDS TO BE DONE, SINCE THE WATER WAS ABOVE THE ^{TOP OF THE} WELL. IT DOES

MF
4-22-03

4/22/03

(100)

NOT APPEAR TO HAVE INFILTRATED THE WELL. WE BAIL WATER OUT OF THE VAULT BOX + EXPOSE THE WELL HEAD.

WELL NO.	PID READING	COMMENTS
LEACH-Q-1	0 ppm	ODOR

0840 MOBILIZE TO LOCATE LEACH-Q-2. WE WILL USE A METAL DETECTOR TO ATTEMPT THIS.

WE FIND THIS WELL WITH HELP OF PEOPLE WHO WORK HERE.

0920 TAKE READINGS

WELL NO.	PID READINGS	COMMENTS
LEACH-Q-2	12.6 ppm	Well was covered with gravel - no water inside of it though

0930 Check PIEZ-1. It is still not open, so we call Steve and let him know. He will call them + arrange it.

0935 Stop by American Bottoms + get keys. mobilize to LEACH-S-1.

WELL NO.	PID READING	COMMENT
LEACH-S-1	358 ppm	Replaced lock

MF
4-22-03

(103) 4/22/03

Well No.	Water Level	Total Depth	Comments
PIEZ-9S	11.38	Not obtained	
PIEZ-9M	11.45	Not obtained	
PIEZ-9D	11.32	Not obtained	
PIEZ-7S	DRY	27.69	
PIEZ-7M	32.91	Not obtained	
PIEZ-7D	32.62	Not obtained	
BDRK-Q-2	23.78	145.0	Soft bottom
LEACH-Q-3	10.83	11.32	Hard Bottom

1605 Return key to Solutia. Return to Pole Barn.

1630 Leave site for evening

(104)

WEDNESDAY 4/23/03

0700 K. HOSKINS ON SITE
CALIBRATE PID.

0705 M. FELTON ON SITE H+S MEETING.
PERSONNEL: M. FELTON - URS

K. HOSKINS - URS

WEATHER: SUNNY, LT. WIND, 50°F, ^{VERY} HUMID
LEVEL OF PRE: MODIFIED LEVEL D.

0715 PACK UP VEHICLE

0730 MOBILIZE TO SITE P TO CONTINUE
WATER LEVELS FOR LEACHATE WELLS.

WELL NO.	WATER LEVEL (FT BTOC)	TOTAL DEPTH (FT BTOC)	COMMENTS
LEACH-P-1	24.84	25.13	HARD BOTTOM
LEACH-S-1	9.49	9.91	Hard bottom
LEACH-O-1	17.02	17.06	Hard bottom
LEACH-Q-1	10.03	11.67	Hard bottom
LEACH-Q-2	DRY	15.80	5 p.m. coming out of well HARD BOTTOM

THIS WELL IS LOCATED 80 FT SOUTHEAST
(PERPENDICULAR TO WALL IN SOUTHERLY
DIRECTION) OF END OF CONCRETE
RETAINING WALL (CONCRETE BLOCK WALL)
(western side of end of wall)

0900 SWITCH TO LEVEL C TO COLLECT
WATER LEVEL + TOTAL DEPTH FOR
LEACH-R-1.

LEACH-R-1 21.37 25.55

Product
@ 23.74

PID READINGS 50-100pm during readings

MF 4/23/03

(109) 4/24/03

0700 K. Hoskins on site. Calibrate PID.

0715 M. Felton on site. Have daily H+S Meeting. Weather is bad. It is raining fairly hard.

PERSONNEL: M. FELTON - URS

K. HOSKINS - URS

WEATHER: RAINING HARD, $\approx 50^{\circ}\text{F}$

LEVEL OF PPE: MODIFIED LEVEL D

0745 Check email + check weather on internet. It appears that it will be raining for quite a while.

0815 Still raining. We will go to Walmart + get some supplies.

0915 Return from Walmart. Rain has reduced to a sprinkle. Prepare for sampling BDRK-R-1.

0925 Mobilize to BDRK-R-1 to sample if water level has recovered in well.

BDRK-R-1 Water Level $\approx 79\text{ft}$ b to c. We will sample now.

1045 Sample BDRK-R-1 for VOCs,

(110) 4/24/03

1045 (cont) VOCs, Pesticides, PCBs, Herbicides, Dioxin, Metals, Ferrous Iron, Nitrate, Sulfate, Alkalinity, + CO_2 . All analyses were sent to STL - Savannah except for the Dioxin which go to STL - Sacramento and except for ferrous iron which will be analyzed on site. This will be the case for all remaining samples during the course of this field effort (during this round of groundwater sampling).

1100 Return to Pole Barn dump trash + check weather. K. Hoskins will stay + do run ferrous iron test and M. Felton will go get ice.

1106 Ferrous Iron w/ Accu Vac Ampuls
 $\text{BDRK-R-1} = 1.0 \text{ mg/L Fe}^{2+}$
Instrument: HACH DR/2000

1130 - Go get ice.

1140-1200 LUNCH + check email + weather.

1200 Begin pre-taping samples to LEACH-Q-1

1220 Mobilize to LEACH-Q-1 for purging and sampling.

(111) 4/24/03

LEACH-Q

Total Depth = 11.67 ft btoe

Water Level = 10.03 ft btoe

Diam of Well = 2"

One Well Volume = $(11.67 - 10.03) \times 0.163 = 0.27$ gallons

Total Volume to Be Removed = $3 \times 0.27 = 0.80$ gallons

(3 Well Volumes to be Removed)

Purge Rate =

1400 We cannot get the peristaltic pump to work here. Called Field Env.

They will send us another peristaltic pump for delivery tomorrow

1415 Return to Pole Barn to package up sample. We do not know what method numbers to use for the analyses. We call Steve Shrout to find out. He is not sure - he will call us back.

1505 Steve calls us back. This is the list of method numbers that he gave to us:

VOCs → 8260B

SVOCs → 8270C

Pest → 8081A

(112) 4/24/03

1505 (cont.) PCBs → 680

Herbicides → 815A

Metals → 6010/7471 or 7470 - heavy metals

Dioxin → 8290 - Bedrock Wells

8280 - Leachate

Methane → RSK-175

Nitrate → 353.2

Sulfate → 375.4

Alkalinity → 310.1

CO₂ → 310.1

1530 All off site for day. M. Elton goes to wrap samples at Fed Ex. Pick up supplies from office.

Shrout
4-24-03
M. Elton

(121)

4/29/03 TUESDAY

0655 M. FELTON & K. HOSKINS ON SITE. CALIBRATE PID + CGI

0715 HAVE DAILY SITE HEALTH + SAFETY MEETING.

PERSONNEL: M. FELTON - URS
K. HOSKINS - URSWEATHER: FOGGY, VERY HUMID, NO WIND $\approx 55^{\circ}\text{F}$

LEVEL OF PPE: MODIFIED LEVEL D EXCEPT AS NOTED.

0725 BEGIN PACKING UP VEHICLE. WE WILL CONTINUE SAMPLING AT LEACH-R-1, SINCE IT WILL HAVE RECOVERED BY NOW.

0740 MOBILIZE TO LEACH-R-1 SET UP FOR SAMPLING. ^{SAMPLING DONE IN} LEVEL C.0800 Collect LEACH-R-1 sample for Pesticides, PCBs, SVOCs, Herbicides and ~~Dioxin~~ ^{MF}. Only 2 amber jars were collected for Pesticides, PCBs, SVOCs + Herbicides since the other four were collected ~~on~~ yesterday.

0800 Collect LEACH-R-1-DUP for Pesticides, Herbicides, PCBs, SVOCs + Dioxin-MF

MF 4-29-03

(122)

4/29/03

0830 MF

0845 NOTE: A 30-minute break was taken halfway through collecting these samples to allow the well to recharge.

During this time we ~~table~~ labeled jars and organized equipment.NOTE: All samples were sent to STL-Savannah ~~except for Dioxin~~ ^{MF} which were sent to STL-Sacramento.

0900 Continue sampling. We collect remaining amber bottles for SVOCs, Pesticides, PCBs + Herbicides. There is still not enough fluid for Dioxin samples so we will collect those at a later time.

0925 Return to Pole Barn to drop off samples.

0930 Leave for Southern Site Q. Steve Shreff wanted ~~us~~ us to go down there ~~and~~ check to see if there is any water in the ponds. There is no water in the ponds. We let Steve know this.1000 Return to Pole Barn + pack up truck for LEACH-Q-1 ^{purgings}

1015 Arrive at LEACH-Q-1 for sampling

(123)

4/29/03

LEACH-Q-1

Amount to Be Removed = 0.80 gallons

(as previously calculated on 4/24/03)

~~lid of~~ Outer casing of well is full of water again, even though we put down plastic to try to prevent this. It was over top of the well.

1020 We will attempt purging & sampling using the peristaltic pump after getting the water out of the outer casing.

1100 Peristaltic did not work, so we proceeded with bailing the well.

1300 Sampled LEACH-Q-1 for VOCs, SVOCs, Pesticides, PCBs, Herbicides, Metals & Dioxin

1300 Sampled MS/MSD Sample at LEACH-Q-1 location (LEACH-Q-1-MS + LEACH-Q-1-MSD) for same parameters as sample was analyzed for.

Note: All samples will be sent to STL-Savannah except for Dioxin which will be sent to STL-Sacramento.

(3 Sample volumes were collected \Rightarrow 9 VOAs, 24 Ambers + 3 500ml plastics)

(124)

4/29/03

1315 Return to Pole Barn

1345 Go to Wash Mart to buy more coolers per Steve and to buy ice.

1415 At pole barn to pack samples

1630 M.F. left for day.

1645 KH leave for FedEx

1725 Leave FedEx.

~~End of Day
4-29-03
LWS~~

143 Monday 6-9-03

0700 BHissins + M Swanson on site. Held site safety meeting
 Personnel - BHissins - URS
 M Swanson - URS

Weather - 60's Sunny
 Level 8 PPE - Modified Level D

0715 Calibrating PID
 0-0 100-100

0730 Began opening all wells + piezometers

Well/Piez No	PID	Comments
BORK-R-1	2.0	No lock
BORK Lead-Q-1	0.0	No lock
Piez-4-S	0.0	
Piez-4-M	0.2	
Piez-4-D	0.3	
BORK-Q-1	0.0	Cut lock off
Piez-1-S	0	
Piez-1-M	0	
Piez-1-D	0	
Piez-2-S	0	
Piez-2-M	0	
Piez-2-D	0	
Piez-3-S	0	
Piez-3-M	0	
Piez-3-D	0	

6-9-03

144

Piez/Well No	PID	Comments
Lead-P-1	11.0	
BORK-P-1	0	
Lead-Q-2	0	needs new lock
Lead-S-1	130	Filled w/ sediment from wasps in protective casing
Piez-5-S	0	
Piez-5-M	0	
Piez-5-D	0	
Lead-Q-1	50	
BORK-Q-1	0	
BORK-S-1	0	
Piez-9-S	0	
Piez-9-M	3.5	
Piez-9-D	0	
Lead-Q-3	54	
BORK-Q-2	0	
Piez-7-S	0	
Piez-7-M	0	
Piez-7-D	0	
Piez-8-S	0	
Piez-8-M	0	
Piez-8-D	0	

1140 Lunch

1220 At solution getting lost F Key

1240 Turning in Key to Solution guard.

(147)

Tuesday 6-10-03

0700 Arrive on site - Briggs & M. Swanson

Personnel - Briggs - CR5

M. Swanson - CR5

Weather - Heavy rain

PPE - Modified Level D

0705 Heavy rain, mos to 2 Leadate wells in northern site Q - concerned might be taking on water since caps were removed for well gauging/stabilization yesterday.

0710 At Leach-Q-1 - after removing vault lid, well is taking on rainwater/runoff. - put cap back on + move to Leach-Q-2.

0715 At Leach-Q-2, well is covered in rainwater/runoff. Mos back to pole barn to get broom/shovel.

0730 Back @ Leach-Q-2 - after removing water + vault lid, put cap on - well was taking on water.

6-10-03

(148)

0815 JPL for office - picking up sed/surfacer sample containers

0830 Back on site, unloading coolers

0835 At Leach-Q-1 - after removing water from vault, checked water level -

9.67' - going to keep open +

check again in a few hours

1000 At Leach-Q-2 - after removing water from vault, checked water level -

14.89' - will come back in a

few hours - Cap is off

1100 Continuing gauging of wells

Well/Piez No.

Leach-S-1

Piez-b-s

Piez-b-m

Piez-b-D

Piez-8-s

Piez-8-m

Piez-8-D

Leach-Q-1

Leach-Q-2

Leach-R-1

WTW

Pry

20.56

20.37

20.38

9.10

9.87

9.83

9.67

15.02

21.26

Comments

WSPS

1130

1145

Mobbing to Salvia to pick up lot F/147

Returning lot F - Key

②

6-17-03

nitrate, nitrite, Sulfate alk,
CO₂, ferrous iron, dioxin,
SVOC/PCB/Post/Herb.

1045 Parking of equipment -
during sampling pump seemed
to be varying the flow rate
significantly - need to call
Waterco.

1115 Back @ trailers picking up
Samples/pump.
Ferrous Iron.

BORR-K-R-1 - 0.55 mg/L

BORR-K-R-1 0.32 mg/L

1230 Left site for office

BA

Wednesday 6-18-03

③

0700 Kitcher and Btiggins meet
@ office.

0730 Arrive on site. Calibrate
equipment, load truck, Health
and safety meeting.
Personnel: Btiggins
K. Kitcher

PPE: Modified Level D

Weather: 70s, Sunny

0800 Prepare sample bottles for
Leachate sampling.

0900 Moving to Leach-Q-1
to sample.

0920 Began plugging Leach-Q-1
w/ disposable bailer - 3 well
volumes - 1 gal.

0930 Sampled Leach-Q-1 &
Leach-Q-1-D up w/
disposable bailer for
VOC, metals, dioxin, SVOC/PCB/Post/Herb,
TOC, TSS/TDS, COD - all shipped
to STL Savannah except
dioxin - shipped to STL-Sacramento

1030 At trailer unloading equipment/
samples

Location Saugat, ILDate 05/04/05Project / Client SA2 SI

1650 Decision to mob to SA-Q-3

to setup on well to shot

first thing on 05/05/05.

1655 Prosonic setup, leave for the night

1658 Labours leave

1700 Setup exclusion zone

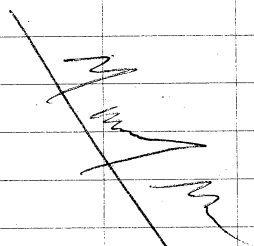
1705 Discussion with Emily about delays
this afternoon.1710 Leave to mob to ~~SA-2~~^{mpm}
Pole Barn

1715 Return to Site R

~~17~~^{MPM} Talk to S Shroff

1730 Unload equipment, fill out COC

1805 Leave site

Location Saugat, ILDate 05/05/05Project / Client SA2 SI

0605 M Miller arrive at site

0610 Calibrate Mineralist Pro, Min Pro 2000, and QFA 2+

0630 Load equipment and coding

0650 Photography, photolog for A Williams

0700 Safety Meeting led by S. Shroff

Sonic crew: M Miller URS

E Fritsch URS

A Marshall Prosonic

S Marshall Prosonic

J Asun Prosonic

E Molander CH2MHill overage

Venture 70's Survey

PPE: Modified PPE

0710 URS staff meeting w/ S Shroff

0730 Mob to Site Q North and

SA-Q-3

0745 Shot drilling

0800 Sample SA-Q-3 ^{SS} 0.5 for rocks, sands

metals, ammonium, and herbicide: PCBs, polynuclear, and DDTs for herb

0815 Sample SA-Q-3-SB-6 and

SA-Q-3-SB-6-D for

rocks, sands, metals, ammonium, herbicides,
polynuclear, and PCBs

Location _____ Date _____

Project / Client _____

0835 Continue Drilling
 0845 Shown detected from 7-13'

Sample SA-Q-3-WS-12 for
 VOCs, SVOCs, metals, ammonia, Dioxin,
 herbicides, pesticides, PCBs, and TCLP

0926 Resume Drilling

0945 Depth 36' on hold

waiting for decision about well
 due to NAPL at 7-13' but
 no shallow aquifer at 36' yet.
 Steve Shultz arrived at site to discuss

1010 Resume Drilling to 46'

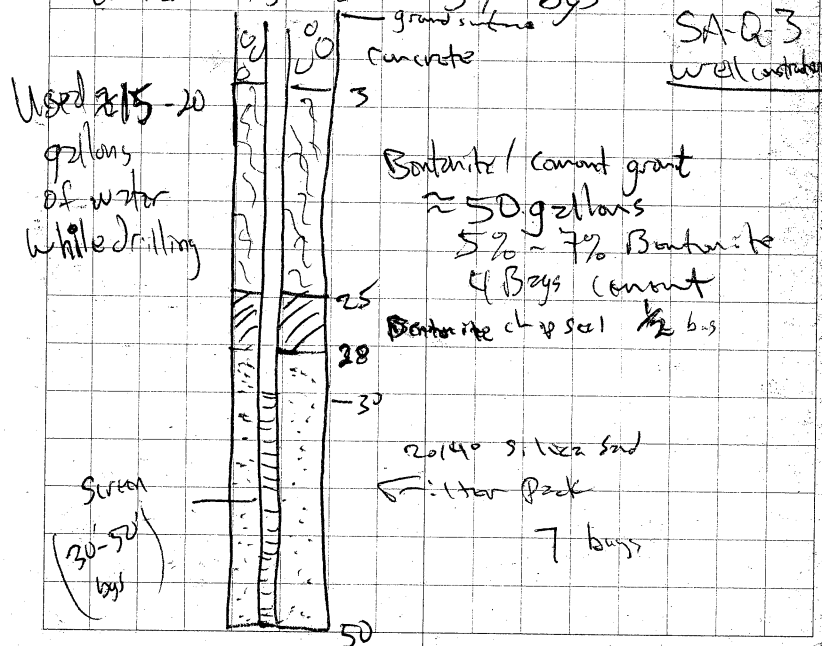
Also observed metal fragments @
 ~ 10' bgs. Emily of CH2M inquires
 if this could be a potential
 drum fragment. I discuss with her
 and we jointly come to conclusion
 this is some other type of metal
 fragment and NOT a drum fragment
 10:15 Emily informs me that Steve has
 discussed potential product and impact
 at 12' bgs with Chris (CPM for CH2M)
 Hill & Claire (CH2M Hill)

Location _____ Date _____

Project / Client _____

and that our (URS) plan of
 setting the well in the SHU
 is fine and that likely the shallow
 water will not have to be
 addressed by another well.
 They agree with the URS stance
 that the perched potentially impacted
 should not be ~~in~~ within the same
 screened interval as the SHU.

- 10:41 Begin setting well at 50' bgs
 water is at 37' bgs



Location Sauget, IL Date 05/05/05
 Project / Client SA2 - SF

Photo log	05/05/05	(part 1)
0685	SA-Q-3	0-3'
0686	SA-Q-3	3-6'
0687	SA-Q-3	12-13' NAPL present
0688	SA-Q-3	13-16'
0689	SA-Q-3	17-22' silt + sand in sand
0690	SA-Q-3	26-36 (32-36)
0691	SA-Q-3	36-46 (42-46)
0692	SA-Q-3	46-50 gravelly sand w/
0693	SA-Q-3	After well install river rocks
0694	SA-Q-4	Before drilling - factory S
0695	SA-Q-4	0-2
0696	SA-Q-4	2-6
0697	SA-Q-4	plastic & metal at 5'
0698	SA-Q-4	metal at 5'
0699	SA-Q-4	brass tubing at 5'
0700	SA-Q-4	6-9
0701	SA-Q-4	6-9 plastic (7')
0702	SA-Q-4	9-12
0703	SA-Q-4	19-22
0704	SA-Q-4	26-36 (32-36)
0705	SA-Q-4	36-48 (40-44)

Chad M

Location Sauget IL Date 5/5/05
 Project / Client SA2 - SI

1140 Benchmark seal set to hydro

1120 break for lunch

1150 Discussion with S Shott

about Union issues regarding lunch break and time charged at end of the day.

Our operating engineer (Tim) who is/ appears to be extremely flexible and willing to work as needed alerted me to the laborers contract with regard to lunch and end of day time. He stated that they must take $\approx 1/2$ hour lunch which starts between 11:00 and 12:00. If it starts after 12:00 they will charge through lunch. Also, they charge in $1/2$ hour increments. So, at the end of the day quitting at 5:01 means we get charged to 5:30 quitting at 5:31 means we get charged to 6:00, etc

Location Sauget IL Date 5/5/05
 Project / Client SA2-SI

Discuss these issues with Steve and how that at times it may be extremely difficult to break between 11:00-12:00 for lunch based on the status of our drilling.

At times the work dictates lunch be taken later than 12:00.

Steve agrees and is going to call Don Giesler of EMA about the status of this issue. EMA is the contractor which hired the Union employees.

12:05 Back at location of SA-Q-3. Union workers at same time as us. Start grouting well.

1235 Well cleanup done. Pressure removing water from drum before mobilizing to SA-Q-4.

1245 Drillers go to get water. Move to Site R for drilled water and coils.

1310 Return to Q-N with SA-Q-4

1315 Begin drilling SA-Q-4

Location Sauget IL Date 5/5/05
 Project / Client SA2-SI

14:00 6-9 bgs and 9-12' had slight creosote-like odor and scanned PID reading of 30.6 ppm and 24.8 ppm respectively. Collect headspace and readings were 4.4 ppm and 20.8 ppm respectively. Discuss with Claire of CH2M Hill and we decide that the definition of "gross" contamination is not met. Do not collect additional samples at this time.

1330 Sample SA-Q-4-SS-0.5 for VOCs, SVOCs, metals, ammonia, and herbicides.

1340 Sample SA-Q-4-SB-6 for VOCs, SVOCs, metals, ammonia, herbicides, pesticides, and PCBs.

15:00 Water @ 35' bgs. Drill to 48' bgs to set well.

15:05 Start setting well.

Location Sauget, ILDate 5-20-05Project / Client SA-2

- 1230 LUNCH
- 1245 Check on Jack, Kevin & Charlie who are drums into the new roll off container.
- 1315 Pick up drums from SA-Q-3 and SA-Q-4.
- 1400 Back to IDW pad to dump drums into roll off.
- 1440 Finished dumping drums. Jack and Kevin try to get the lid of the first rolloff back on its tracks.
- 1500 Help Andrea get samples & COCs ready for Walter (STL)
- 1515 Discuss plan for Monday/next week with Steve, Brandi, Justin, Andrea.
- 1600 Leave site for the day.

Location Sauget, ILDate 5-23-05Project / Client SA-2

- 0610 Arrive on site for the day. Help load up for level B work today.
- 0700 Safety Meeting
- 0705 File safety meeting sign-in sheet and print labels for everyone (Justin, and Kurt and Brandi) since Andrea is not here today.
- 0715 Wait for everyone doing Level B trench work to move over to AT-Q-34. Mike Miller and I will be dressing out as back up today. Brian is not on site today and Steve needs to make some calls.
- 0730 Head over to AT-Q-34
- 0820 Start setting up for level B work at AT-Q-34
- 0830 Start getting dressed in Level B.
- 0900 Start trenching
- 1045 Finished digging. Start undressing and loading up.
- 1125 Head back to pole barn/trailer
- 1145 Unload Mike's and my trucks.
- 1200 Talk to Jack (EMA) about picking up drums. The last of the drums from

6/13

- 1037 Stopped pumping and pulled tubing, marked drum and picked up to head to next site.
- 1109 Left & headed to SA-Q-6
- 1120 Found SA-Q-6 & decided to break for lunch
- 1220 Arrived back at SA-Q-6 & told Brian from Roberts to decom his tubing. Brian left to decom tubing.
- 1301 Packed up & moved to SA-Q-2 b/c when cap of well was removed LEL readings were high around 13 & 18 so I capped hole & until further decisions are made hole will be left alone.
- 1332 When arrived at SA-Q-2 we took cap off but as we took cap off it popped off as if under pressure. The LEL readings went extremely high on Q-Rac

BWD

6/13

- so we put cap back on hole. a couple min later we tried to take cap off again & it popped off again & LEL readings were high again. We are currently shut down until Wundy brings her Q-Rac over to verify our readings. As soon as Wundy arrives we will approach well to see what readings we get & then move on to SA-Q-3 or SA-Q-4.
- 1355 Wundy arrived and took her Q-Rac & went to shut cap tight
- 1400 Left SA-Q-2
- 1407 Arrived at SA-Q-3 removed cap & took reading
- Q-Rac = $\frac{2}{3} \left(\frac{20.9}{100} \right) \text{ P.S.I.} = 0.0$
- Start measuring water + well depth

6/13

- 1452 Started ~~hydro~~ ~~pu~~
pumping - will surge
then purge
- 1503 Started purging
- 1538 Purging ended & began
to pickup. Emily stopped
by
- 1618 Everything is done & headed
back to pull born
- 1645 Left SAZ for the day

[Signature]

SAZ

6/14

- 0635 Showed up at SAZ Pullborn
to start calibrating equip.
- 0800 Met up with Roberts at
Gas station (Phillips) for safety
meeting with Wendy
- 0840 Brian from Roberts + I
arrived at SA-P-2
- 0844 When cap removed PID
spiked so I put cover
back on. PID continued
to read high so I went
back to pull born to
recalibrate & change
filter
- 0920 Arrived back at SA-P-2
to set up for purging
Once cap removed PID
didn't have any spikes.
Reading = 0.1 ppm
- 1000 Started purging
- 1035 Stopped purging

[Signature]

Location Sauget, ILDate 6-16-05Project / Client SA-2

1445 Mob. to Q-Central to collect purge water drums.

1515 Mob. back to mod tank with drums collected.

1540 Begin dumping drums into mod tank.

PID 0.0 when lid removed

SA-Q-6 purge water drum

1548 PID 0.0

SA-Q-8 purge water drum

1555 PID 0.0

SA-Q-7 purge water drum

1603 PID 0.0

SA-Q-8 purge water drum (2 of 2)

1610 PID 0.0

SA-Q-5 purge water drum

1615 PID 0.0

SA-Q-2 purge water drum

1620 PID 0.0

SA-Q-1 purge water drum

slight odor

1625 PID 0.0

SA-Q-3 purge water drum

1637 PID 0.0 SA-Q-1 purge water drum (2 of 2)

WD

Location Sauget, ILDate 6-16-05Project / Client SA-2

1642 PID 0.0

SA-Q-4 purge water drum

1648 PID 0.0

SA-Q-2 purge water drum (2nd drum)

1652 PID 0.0

SA-Q-3 decon^{water} drum

1700 Drums staged in IDW areas

1710 Left site for the day

WD

(25)

7-7-05

0700 Arrived on site - see B. Williams' notes
 look for information.

PFC - Mac de Arad D

Weather - 90's, Sunny.

Personnel - B. Higgins, B. Williams, LKS

0715 Meeting to set Q to begin opening wells.

0830 TRAS-P2C - all piez full of yellow jackets -
 20 or more - poke w/ sharp - okay
 to use Baida. Will purchase Baida &
 lunch.

1024 began gauging wells in Sick Q.

ID#	DIP	DTW	TD	Comments
TRAS-P2M		29.52'	67.68'	Soft
TRAS-P2BM				
TRAS-P2BD		29.61'	95.35'	Soft
L-Q-1		10.31'	11.70'	Hard
SA-Q-1	35.46	29.03'	40.86'	Hard
SA-Q-2		31.53'	59.29'	Hard
Piez 4S		31.59'	52.22'	Soft
Piez 4M		31.61'	93.34'	Soft
Piez 4D		31.60'	131.42'	Soft
Bdrk G-1		31.79'	163.31'	Soft
SA-Q-3		27.70'	49.84'	Hard

B/A

7-7-05

(26)

ID	DIP	DTW	TD	Comments
SA-Q-4		25.42'	47.94'	Hard
SA-Q-6		27.04'	39.85'	Hard
L-Q-2		15.55'	15.72'	Soft
SA-Q-7		29.36'	45.21'	Hard
SA-Q-8		23.02'	44.64'	Hard
SA-Q-9		24.11'	35.31'	Hard
Piez 7 D		27.15'	118.48'	Soft
Piez 1 S		23.55'	27.90'	Soft
Piez 1 M		27.21'	75.56'	Hard
SA-Q-16		18.03'	27.58'	Hard
BDRK-G-2		17.82'	143.21'	Hardish
L-Q-3		10.87'	11.33'	Hard
SA-Q-14		21.55'	38.11'	Hard
SA-Q-15		19.52'	32.11'	Hard
SA-Q-12		22.31'	35.39'	Hard
SA-Q-13		13.21'	28.31'	Hard
SA-Q-10		13.79'	21.41'	Hard
SA-Q-9		12.69'	28.05'	Hard
SA-Q-11		22.07'	33.80'	Hard
Bdrk G-1		8.79'	105.70'	Soft
1400	B. Williams arrived at B. 20H to purge for a 3rd time while			

7/15/05

0645 KO on site - cal troll

PH 6.99 DO 9.38

Cond 8147 ORP 224

0725 arrive at SA-Q-3

DTW 29.95

TID 49.82

0755 start purging SA-Q-3

0828 start sampling

0900 Ferrous Iron sample: Overrange

0942 Leave SA-Q-3 to dump water

1012 Arrive at SA-Q-2

DTW 34.90

TID 59.22

1040 Begin purging SA-Q-2

1148 Begin sampling SA-Q-2

1430 Leave site for day

~~Thompson~~
7/15/05

7/15/05

SA-Q-3

TIME	DTW	color	pH	Temp	Cond.	Turb.	DO	ORP
0755	30.00	slightly cloudy	6.52	18.94	1660	122.4	1.40	-71
0805		slightly	6.70	18.92	1649	90.1	0.84	-112
0810		organic	6.75	19.24	1600	66.8	0.84	-123
0815	30.00	lt. grey	6.77	19.46	1607	44.3	0.82	-129
0820		slightly	6.78	19.60	1671	36.4	0.78	-132
0825		cloudy	6.79	19.84	1682	28.6	0.75	-134

TIME	DTW	color	pH	Temp	Cond.	Turb.	DO	ORP
1050		slightly	6.73	18.76	1586	41.7	1.21	-99
1055	34.98	clear	6.76	18.83	1586	30.0	1.10	-107
1100	34.98	slight	6.79	18.84	1576	20.5	1.10	-117
1105		undefined	6.82	18.87	1564	16.8	0.95	-122
1110		odor	6.84	18.85	1554	15.0	0.90	-124
1115			6.85	18.62	1536	9.3	0.83	-128
1120			6.85	18.93	1542	7.7	0.79	-130
1125			6.86	18.81	1535	5.8	0.75	-132
1130			6.86	18.86	1526	5.4	0.72	-133
1135			6.86	18.87	1520			

SA-Q-2

Location SAZ Phase 2/3 Date 7-12-06

Project / Client _____

No indication of NAPL on \pm

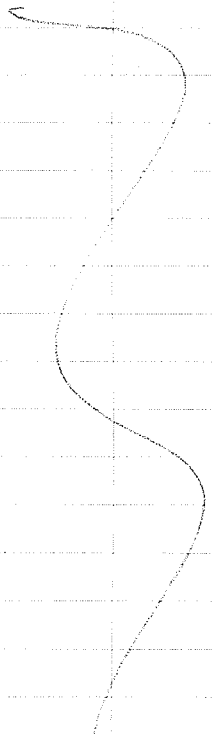
but some staining

NAPL-C D.W. 57.5%

T.O. 10.7% TI

No NAPL on

no indication of NAPL on

T.O. 10.7% or 10.7% staining
Sept 2006Location SAZ Phase 2/3 Date 7-20-06 89

Project / Client _____

1330 Arrived on-site.

Packer on-site to level
trailer after storm pushed
off concrete blocks.

1350 R. Roberts - CH2M Hill on-site

Preparing to collect NAPL

samples from Leach-P-1

+ Series S.

Loading equipment.

Will collect NAPL samples

w/ disposable bailers.

1430 At Leach-P-1 to collect sample.

PTD - 03.42

TD - 25.15

1445 Collected sample L-P-1 -

was able to collect 2 -

250 ml containers -

will come back tomorrow for

the rest of the bottles

Will analyze for VOC, SVOC,

PCB, Pest, Pb, metals, Dioxin

+ Mob. / ch. characteristics -

dynamic viscosity + fluid
density.

Location SAZ Phase 2/3 Date 7-26-06

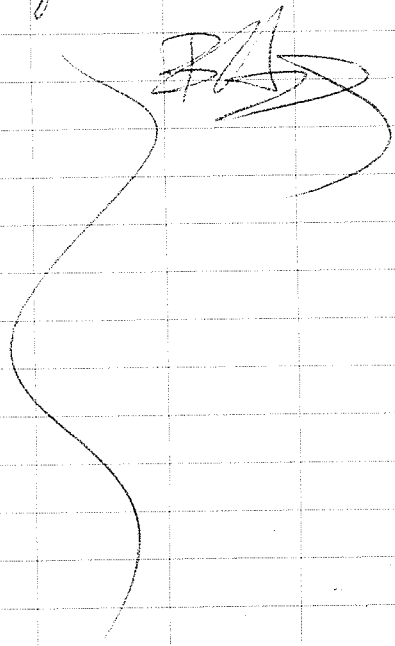
Project / Client _____

1805 AF Sonic 5 to collect
 DNAPL sample of disposable
 barrels for mobility characteristics -
 dynamic viscosity + fluid
 density

DTPL No tone

TD - 50.3

1845 Lucite Le Collat Sample -
 will come back tomorrow -
 weighted barrel + whole p.p.
 1845 left site

Location SAZ-Phase 2/3 Date 7-27-06

Project / Client _____

07:15: Arrived on site

Calibrate instruments

25: 0.1 - 0.0 - 100

00m: 0/0 0-49/0-25
 0/00.9 0-20/30.7-20.4

07:40 Loaded equipment onto truck

0810 left to get ice to pack new
 cooler - held up by train

0830: Headed to beach - P-1

0900: Sampled 125ml Amber jar and
 125ml plastic jar

0915 Attempted to sample 1L Amber, but
 the well did not have enough
 product, or water, to allow a
 full sample.

Samples - J. Kypka and N. McWhorter
 placed barrel down in well and
 tied off to return later today

1000: Headed to Sonic-5

1030: Arrived @ Sonic-5 and began
 setting up

1045: Sampled Sonic-5

1100: Unloaded @ Sonic-5 and
 moved back to C-P-1

② BMT
7-18-02

TCLP SWC/PCB/Rest/Herb.

Sampled WASTE-Q-2-COMP-T ^{MS/MSD} for

SWC/PCB/Rest/Herb/Metals.

Prosonic grouting boring.

1145 After 2 drums of grout, hole still not filling, think it is oozing into "waste" water from 7-18. Use bentonite chip for rest of hole. Grouted top 2'.

1200 Judd - Raining.

1300 Prosonic decoming ^{BA} the rig.

1305 Setting up on WASTE-Q-1, Raining.

1500 Cleared up, began getting drillers set up on WASTE-Q-1.

1615 2nd a/c

BASS

7-19-02
BMT

②

0650 Arrive on site.

0700 Steve held site safety meeting.

0715 Calibrate equipment

PID - 0-0 120-105

RAM - yersoid

COM-HAS-D 10-0 LCL-0 @ 20.7

H/S-15 10-50 LCL-50

Weather - Sunny, 70's

Personnel - CRRS - BMT, Melissa Moore

Prosonic - Disco - Mark

Don Youngblood

George Lamer

Equip - 1 - PP, RAM, COM,

Prosonic drill rig.

0750 At WASTE-Q-7, began drilling

0800 Sampled SOIL-Q-7-0.5 for VOC

Pickin, SWC/PCB/Rest/Herb & Metals

0815 Sampled SOIL-Q-7-0.5-PPH for VOC

Pickin, SWC/PCB/Rest/Herb & Metals

0830 Sampled WASTE-Q-7-9 for VOC

Proson, TCLP VOC, TCLP Disin. @

9' - no PID readings in boring.

0750 Sampled SOIL-Q-7-6 for VOC, disin

SWC/PCB/Rest/Herb & Metals @ 4' / no PID

readings in Q-6 interval. only 4' of recovery

70 7-26-07
BmH

- Collect WASTE-Q-10-8-MS/MSD
for TCLP VOC + TCLP Dioxin.
- 1035 Collect WASTE-Q-10-8-PUP
for VOC + dioxin.
- 1050 Collect WASTE-Q-10-COMP
for SVOC/PCB/PEST/Herb + metals.
- Collect WASTE-Q-10-COMP-T for
TCLP SVOC/PCB/PEST/Herb/metals.
- Collect WASTE-Q-10-COMP-T-MS/MSD
for TCLP SVOC/PCB/PEST/Herb/metals.
- 1055 Collect WASTE-Q-10-COMP-PUP
for SVOC/PCB/PEST/Herb + Metals.
Prosemin growing barehole, packing
up rig.
- 1115 Began making back to pile barn to
decom rig.
- 1130 Began decom rig.
- 1215 Finished decom rig, mob to
WASTE-Q-1
- 1225 setting up on Q-1
- 1230 Began drilling
- 1245 Collect SOIL-Q-1-0.5 for VOC,
dioxin, metals, SVOC/PCB/PEST/Herb
- 1300 Collect SOIL-Q-1-6 for VOC,
dioxin, metals, SVOC/PCB/PEST/Herb.

7-26-07
BmH

- Collect SOIL-Q-1-6-MS/MSD for
VOC, dioxin, metals, SVOC/PCB/PEST/Herb.
- 1315 Collect WASTE-Q-1-5 for VOC,
dioxin, TCLP VOC, TCLP dioxin.
- Collect WASTE-Q-1-5-MS/MSD for
VOC + dioxin.
- 1320 Finished boring @ 22', end of
waste @ 12', Free product
present.
- 1350 Collect WASTE-Q-1-COMP for
metals + SVOC/PCB/PEST/Herb.
- Collect WASTE-Q-1-COMP-MS/MSD
for metals + SVOC/PCB/PEST/Herb.
- Collect WASTE-Q-1-COMP-T for
TCLP SVOC/PCB/PEST/Herb/metals.
- 1400 Baul to finally to patch up rig
bunch.
- 1400 Making to southern site Q to set
up on WASTE-Q-9.
- 1550 Began drilling Q-5', Josh using
water. Told him to stop + off sed.
we can't use water on waste coming
off sed ~ 2' to 5'.
- 1600 Collect SOIL-Q-9-0.5 for VOC, dioxin,
metals, + SVOC/PCB/PEST/Herb.

26 July 2002

12:35 Prosonic installing well

12:45 Prosonic cleaning up and preparing to demo back to trailer for decan. EKF going to put locking cap on LEACH-Q-3

13:35 Prosonic to lunch. Also

Waiting for CH2M, Reason & US to determine location & next leachate well.

EKF filling out drum log

14:00 Decide to put Leachate well at location of Q-1 waste baring. This hole had free product in it. To save a decan step I will work with the Phoenix rig at this location and my crew will do the remaining waste baring.

14:31 Setting up for LEACH-Q-1

14:45 Start drilling LEACH-Q-1

Using respirators to drill w/ and check samples

15:15 Down to 12' bgs. Did not encounter native material beneath the fill. However a

26 July 2002

Large piece of concrete blocked the cone bit at 10 1/2' bgs. This concrete prevented any additional material from entering the cone, but below that depth. Discuss with John Reason and Jeff of CH2M Hill. John

states that he is confident that we reached the bottom of fill based on our close proximity (5 feet) to waste Q-1. Bottom of fill was 12' bgs in waste Q-1. Jeff agrees and everyone involved agrees to set the well at 12' bgs.

15:30 Prosonic installing well material

16:00 Cleaning up around LEACH-Q-1.

one of the drums has a hole in it, punctured while we were unloading previous contents. likely. I tell Oscar to just put the drum inside one of the 80 gallon overpacks.

16:10 EKF Looking up leachate wells and labeling drums @ each location



Attachment 2

Field Notes Site S

102 BmH
8-14-02

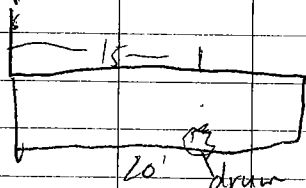
1120 Began unloading & setting up
@ AT-S-1

1230 At AT-S-1, preparing exclusion zone.

1245 Began trenching.

1250 At ~4' deep, 15' from NE stake,
found drum piece & drum l.d. & PID peaks.
Began backfilling 1st 20' section.

NE stake



~~Began backfilling~~

~~Began trenching next section~~

Spoke w/ Steve, decided to upgrade
to Level B left for pole barn to
get equipment.

1330 At Site S, waiting for OK from John.

1340 Began trenching 2nd section, John R.
said as soon as we encounter drum, stop.
Began @ SW stake.

1st 10' section - 0

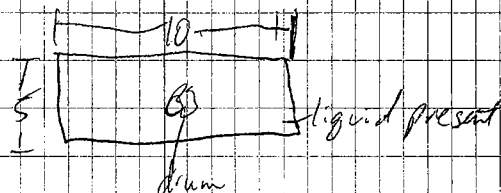
1350 At 25' from SW stake, encountered drum,
4' deep. At edge of trench, liquid

BmH
8-14-02

103

present. Unable to tell whether free product
or water.

SW stake



Began backfilling trench.

1400 Finished backfilling

1430 Back @ stake

1700 Left site

Bit

6-14-02
BMA

0700 Arrived on-site, Stakeholder site
safely meeting 70s Envy, Level C
Calibrated equipment
PID 0-100-100-

RAM moved

CUM - 1/2 50 10-0 15-0 02-20s
1 1/2 50 10-0 15-0 02-20s

0730 BMA leaving for Site S
to begin setting up on
next trend.

0805 Began trenching BT-S-4
At ~1.5' deep, encountered
drum, rusted w/ liquid (HC)
on outside & around it
in the soil. Drum ~7'
East of fence-line.

0810 Began backfilling.
55 gal - drum - partially intact,
rusted w/ liquid on outside &
around it - black HC.

0825 Finished backfilling, began moving
to next location.

0835 Began setting up exclusion zone
on BT-S-4.

0855 Began trenching BT-S-4, continuing in Level C.

6-14-02

(3)

